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EVALUATION OF THE HOLDINGS IN SCIENCE/TECHNOLOGY IN THE UNIVERSITY OF IDAHO LIBRARY.

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Standard checklists, guides to the literature, holdings of libraries known for excellence, lists of journals covered in indexing and abstracting services, checklist of recommended books and journals published by professional societies, references cited in terminal bibliographies, and lists of professional society publications were used to check the Library's science and technology holdings. Each subject area of the collection is discussed individually with specific recommendations listed. General recommendations include some form of continuing survey of library holdings by each department, appointment of a liaison officer at a college and/or departmental level to work with the librarian in selection, and coordination of selection with the Washington State University Library. (CC)

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EVALUATION OF THE HOLDINGS IN SCIENCE/TECHNOLOGY
IN THE
UNIVERSITY OF IDAHO LIBRARY

ROBERT W. BURNS, JR.
SCIENCE/TECHNOLOGY LIBRARIAN

The Library
University of Idaho
Moscow

June 1968

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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University of Idaho Library - Publication Number Two

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UNIVERSITY OF IDAHO LIBRARY PUBLICATIONS:

Number One - The Earl Larrison Collection of Sir Walter Scott

**Number Two - Evaluation of the Holdings in Science/Technology
in the University of Idaho Library**

OUTLINE
TEN YEARS OF PROGRESS

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A. INTRODUCTION

1. Background and Purpose. In 1959, Mr. Beck, then Science/Technology Librarian, prepared for the faculty an Evaluation of the Holdings in Science and Technology in the University of Idaho Library. This publication offered the faculty a critical description of the collection pointing out its strengths and weaknesses. That it was useful has been attested to by a continuing demand for copies among the faculty on our campus as well as by large number of requests from other campuses over the United States. Ten important years have passed since this survey was prepared. It is time again to review the Library's pattern of development in order to make certain that the growth of the collection is oriented toward the needs of our faculty and curriculum.

In 1958, the Science/Technology Library contained 25,456 periodical volumes and 35,885 books. In 1967, these figures had grown to 43,792 periodicals and 57,925 books. This activity is typical of the coordinated thrust toward excellence seen over the entire Library. Indeed, the period has been one of growth over the entire University. The number of faculty as well as the number of disciplines to be served has increased. The interests of the faculty have grown and new faculty members have made new demands upon the Library's collection and personnel. Today Idaho is placing more emphasis upon research both pure and applied. A young, aggressive group of research-oriented faculty are providing an immense stimulus to the growth of the University. New courses are constantly being added to the curriculum and the University has undertaken new responsibilities in many areas.

Perhaps the most significant development during this period has been the decision by the Board of Regents to grant a doctoral degree. Nine years ago there were no doctoral degrees at Idaho. Today doctorates are being offered in thirteen disciplines by the science and engineering faculties. This decision has had a significant effect upon the character of the Library's collections in that it has demanded they become research collections in order to support a research program in these disciplines.

A research library differs in many ways from one supporting exclusively an undergraduate or master's program. It requires more foreign language journals, holdings in greater depth, i.e., complete runs of serials, and increased emphasis upon the ephemeral, seldom used, type of material. The collections in a research library must have no restrictions as to language, date, place, or form of publication. These requirements have placed heavy demands upon the Library's resources and skills.

Because of the magnitude of the task involved in preparing this report, there was not sufficient time to survey in detail each discipline or even each Department. The reader can, however, obtain a rough idea of the Library holdings for disciplines not covered by examining the Tables accompanying this section. While they do not present a complete picture, they do give a quantitative indication of our holdings when compared with the titles used in standard check-lists.

Two large areas not covered in this report and worth special mention are agriculture and medicine. Both are of great importance to work at the University and one of them, agriculture, relates directly to a basic industry within the state as well as to an important segment of the University's curriculum. It is hoped that a thorough review of Library holdings for both areas can be accomplished in the near future.

Agriculture is one of Idaho's basic industries, with the curriculum and research efforts in the College reflecting needs throughout the state in both pure and applied research. The Library collection is passable but will require attention in special areas. For example, it would be useful to evaluate library holdings in terms of their ability to support research in selected crops, i.e., potatoes, onions, grains, stone fruits, peas, etc. The reader will also find the specialized bibliographies of Stanly (10), Davis (11), and the National Agricultural Library (8) helpful in evaluating library holdings in agriculture.

In 1964 the National Library of Medicine published a list of basic science books in their reference collection compiled by Marjory H. Wright (12). This is a collection of well-known textbooks, standard manuals, and comprehensive treatises on anatomy, biochemistry, biophysics, histology, etc. All are recommended titles for libraries supporting work in the medical or paramedical sciences. Out of the 116 titles listed here, we have 77 although our holdings include many incomplete sets.

2. Why This Study. It is precisely this ferment and stretching toward new goals which has demanded that the Library now reevaluate its goals to make certain they are in accord with the curricular and research patterns at Idaho. It is in partial fulfillment of these responsibilities that we have prepared this study of our holdings. It is extremely important that the Library's goals be in phase with those of the University. Not until the Library has a clearly focused picture can it begin to develop areas of excellence and to specialize. The purpose of this report, then, is to assist each of the Colleges and Departments covered in bringing their current needs into better focus and in obtaining a better perspective on future Library requirements for their educational tasks.

Accompanying each section is a list of recommendations. These are not intended to advocate firm commitments to the acquisition of any title; rather they have been placed in this report to bring these titles to the attention of the department concerned and to seek guidance from the departments and colleges in discovering ways in which the Library can better support the research interests and curriculum at Idaho. Many of the faculty will have titles which they wish added and some will even wish to delete items. This is healthy and should be encouraged. Nor does the Library anticipate buying all these journals, books, and backfiles in this biennium or even in the next two or three bienniums. This would involve a tremendous sum of money and would not be in the best interests of the University. These recommendations are merely guidelines to elicit direction and guidance from the faculty.

3. Goals of Study. Therefore, we are proposing that the Library develop along two parallel paths toward excellence: seeking first of all, a well chosen, balanced undergraduate collection to serve all areas both in the sciences and outside the sciences, and second, the development of holdings in depth for those disciplines in which the University now offers graduate degrees. It is further suggested here that greatest emphasis be placed on developing those parts of the collection directly supporting or involved in a doctoral program.

One final point is worth emphasizing. Research collections are not built overnight. It takes many years of patient accumulation, minute attention to detail and aggressive, imaginative collecting before an adequate research collection begins to develop. It is hoped that this survey will assist the instructor in determining the adequacy of the present collections and the direction which future growth should take.

4. Interrelationship of Subject Areas. It is a fairly common cliché among scholars that nobody else uses library materials in his area. Such a statement indicates a lack of understanding of the basic nature of science today. It is true that only the trained specialist will understand work being done on the frontier of his discipline. But this certainly does not apply to every aspect of any given discipline. The physicist and engineer will use mathematics books. The geologist will use botany books and the ecologist is likely to use materials from any of these disciplines. Indeed, so common has this practice become that we find whole areas named for two disciplines - biophysics, biochemistry, geobotanical prospecting, medical meteorology, medical entomology, etc. The point is that a journal or book published in one field will often be needed by someone in another field. Therefore, our Library cannot be strong in one area without the requisite supporting strength in related areas. This is not intended to advocate strength in every area, rather it is a plea for a more realistic concept of what a library collection should be and do.

B. METHODOLOGY OF THIS STUDY

1. Discussion. What are the quantifiable requirements, if any, for determining the adequacy of a science/technology library and how are they to be measured? There is no single criterion, other than the ability to satisfy a certain percentage of the demands made upon it, for determining the adequacy of a library collection. There are, however, a number of quantitative standards which, when taken together, offer one a general perspective of the collection and a better concept of that elusive factor "adequacy." These are as follows: the holdings of the library can be compared with titles listed in standard library checklists, with the holdings of other libraries known for their competence in a field, with lists of journals covered by indexing/abstracting services for the discipline, with checklists of recommended books and journals for a particular discipline published by professional societies, with the references cited in terminal bibliographies, and against lists of their own publications issued by the professional societies. By using several of these criteria, it will be possible to develop a more realistic picture of the adequacy of our Science/Technology Library collections at Idaho. Admittedly, each of these constitutes a quantitative measure. However, the fact that they are also measures to a degree of user satisfaction (ability to locate a given item) and include the so-called "standard or best lists" should lend to them a qualitative nature as well as a certain degree of credence. There are a number of lists available from such professional organizations as the American Institute of Physics (6), Committee on the Undergraduate Program in Mathematics (5), the Engineers' Council for Professional Development (27), etc. Indeed, this author has encouraged the professional groups, as those best informed about their technical literature and the ones who stand to gain most from strong collections, to prepare such lists. The responses to this suggestion have been mixed and not altogether positive. However, these lists would be of tremendous value to all parties concerned and should be undertaken at the professional society, institute, etc. level by subgroups within these organizations created especially for this purpose. Another point worth considering here is the ability of the Library to satisfy requests made for items listed in terminal bibliographies. Of all the criteria listed this, together with the selective lists and guides prepared by professional groups, come closest to being qualitative in nature, since both are defined and inclusion is presumably limited to the "best" and most "pertinent" to the subject discussed. Inclusion in such a bibliography is therefore at least partially a qualitative matter, and library holdings of these titles then become of related qualitative significance. Granted that this assumption is not always valid and granted that anyone who buys a title - either journal or monograph -

simply because it appears on a given list is less than intelligent, we at least have some yardsticks against which to measure the value of our collection - remembering, however, that our library collection must be evaluated in the context of the curricular pattern and research interests at Idaho.

Undoubtedly there exists a definite relationship between the size of a given collection and the ability of that collection to respond to the needs of its clientele. This can and should be expressed in terms of a probability. The larger the collection becomes, the greater is the probability that it will meet the needs of its patrons, assuming the collection has been intelligently selected. But since the Library must be concerned with limitations of time, staff, money, and space, the problem becomes one of determining the optimum size. Essentially, what is being measured then is not the quality or size of a collection, but the probability that a given group of books and serials will be able to satisfy the needs of its clientele.

The Library is fully cognizant of the pitfalls and fallacies involved in any quantitative evaluation of Library facilities. Nothing can be quite so misleading as statistics. This is especially true for a library collection where quantitative figures bear little relationship, other than an increase in the probability of satisfaction, to the quality of the collection. The author is not unmindful of this situation. However, while figures do not give the whole story they do form a significant portion of the story and any attempt to determine a collection's value to its public must include some statistical information.

A final word should be said in regard to the use of checklists. No library should accept everything mentioned in any given list simply because it appeared on that list. This would soon lead to national disaster with libraries becoming carbon copies of one another. Each library must seek its own individuality in terms of the people who are to use the collections. Lists are at best guides and not authorities. Here the matter of judgement is critical to the growth of a significant library collection. And it should be emphasized again that the entire selection process is best thought of as a continuing dialogue between librarians, faculty, and students in their pursuit of a common goal - excellence.

2. What Are The Criteria. The criteria against which we shall measure our Library are as follows:

- 1) How do our holdings compare with lists of recommended library materials published by the various professional societies?
- 2) How many of the publications issued or sponsored by these professional societies does the Library receive?
- 3) What percentage of the items cited in significant terminal bibliographies is the Library able to supply?
- 4) What index and abstract coverage is available for a discipline and how adequate is our coverage?
- 5) What percentage of the serials covered by the significant indexing or abstracting services can the Library supply for a given discipline?
- 6) How many of the publications (both serial and monographic) mentioned in the so-called "standard" checklists can we provide?
- 7) How well do Idaho's holdings compare with the guides to the literature (both continuing and non-recurring) which have been published? In addition to the general checklists mentioned above, the scientist and engineer have available to them a number of new subject oriented guides to the literature. These can be extremely helpful both to the novice and to the

experienced library user. Two publishers, Interscience and Pergamon, have announced a series of these guides, with each volume devoted to a particular subject. A selected list of literature guides available at Idaho follows: atomic energy (20); biology including the related fields of bacteriology, anatomy, physiology, pathology, and biochemistry (4); chemistry (21); electrical engineering (22); and zoology (23).

C. TECHNIQUES OF SELECTION

1. Available Aids. While the scholar is familiar with those journals in his field which carry book reviews, he may tend to overlook the more important general science periodicals which also contain critical reviews of new books from all fields of science. Some of the better examples are: Science, Scientific American, Nature (London), or American Scientist; and he may not even be aware of the numerous sources used by the science librarian in selecting books for the collection. Both Science and Nature issue annual compilations of new science books. The Library Journal issues an annual review of science books in March. Stechert-Hafner Book News covers the foreign book field and is particularly strong in its coverage of Handbuch and Traité sets as well as symposia, conferences, congresses, and meetings.

The American Book Publishing Record which appears monthly includes scientific, medical, and technical books published in the United States. This is cumulated annually into American Scientific Books which continues the earlier book by Hawkins called Scientific, Medical, and Technical Books.

Aside from the usual professional journals, where can the scientist or engineer normally expect to find reviews of the "best" books in his discipline? The following is a list of general aids or indexes that are available to help the scholar purchasing books for his discipline:

a) The Special Library Association has for many years sponsored the Technical Book Review Index which offers the reader excerpts from reviews appearing in the "... current scientific and technical trade journals ...". Emphasis is on the physical, earth, engineering, and mathematical sciences with occasional reviews of general science books as well as the life sciences, biology, zoology, and agriculture. This index to book reviews which have appeared in the journals should be thought of as an evaluative rather than as an announcement service. It is compiled and edited in the Science and Technology Department of the Carnegie Library of Pittsburgh.

b) New Technical Books: A Selective List With Descriptive Annotations published by the New York Public Library "... is a selective list of noteworthy American imprints ... in the Science and Technology Division of the New York Public Library. Noteworthy foreign works ... may also be included from time to time ... Subject emphasis is on the pure and applied physical sciences, mathematics, engineering, industrial technology, and related disciplines ... with books in the natural sciences included from time to time. ... The books, including reference works, range from technician and introductory-college level to highly specialized advanced graduate and research level ..."

c) Choice: Books For College Libraries is a publication of the Association of College and Research Libraries. It contains critical reviews of new books selected for the liberal arts curriculum from those published in the United States and Canada. The reviewers teach undergraduate and graduate courses in junior colleges, colleges, and universities. "... It reviews approximately

90% of the American university press publications and most of the serious fiction and non-fiction of American Commercial publishers ... Choice is especially noted for its comparisons of new books with those long established as the outstanding works in their field."

d) Science Books: A Quarterly Review is a publication of the American Association for the Advancement of Science. It includes trade books, textbooks, and reference books in the pure and applied sciences for students in the elementary and secondary grades as well as the first two years of college. To a limited extent it covers advanced and professional books for students and teachers. For each it gives an evaluative annotation of about a paragraph with notations regarding reader level and whether highly recommended, recommended, acceptable, or not recommended.

2. Free Material. All libraries find themselves occasionally in the paradoxical situation of having to refuse so-called free materials. The paradox lies in the fact that there is no such thing as a free publication, since all library materials cost money to organize, process, and store. However, there is a vast amount of material which can be obtained for a very small initial cost. Such material will enable a library to increase the usefulness of its collections substantially when it is chosen with care. This Library receives, as do most libraries, a constant stream of such material both as a direct gift and on exchange. It comes in the form of house organs, annual reports, newsletters, progress reports, experiment station publications (engineering and agricultural), state, museum, society publications, etc., etc. This Library makes a special effort to keep material which supports the curriculum, contains material of a scholarly nature, is indexed, is of interest to the faculty, or appropriate to this geographical region. Following these guidelines the Library has a fairly complete collection of agricultural experiment station publications. The collection of engineering experiment station publications is growing and greater emphasis is being placed upon obtaining the publications in mining and geology issued by local, regional, or national agencies. We now receive engineering publications from twenty experiment stations on a regular basis. With the exception of material from the U.S. Geological Survey and the U.S. Bureau of Mines which comes automatically, the Library's holdings for this type of material in the earth sciences are at best weak. On a regular basis the Library receives publications from only five state bureaus of mines and these are far from complete.

The Library currently receives publications from twenty-three state academies of science as opposed to the eight we were receiving in 1959. Some of these are free and some like the Annals and Transactions of the New York Academy of Sciences are quite expensive. The quality of the work published varies from the professional scholarly articles published in the Papers of the Michigan Academy of Science, Arts, and Letters to the local amateurish work published by some Academies. The emphasis in these Academy of Science publications has been heavily in the biological sciences, but more and more papers in the physical and mathematical sciences are finding their way into this medium. These publications deserve more attention than they have had in the past and some consideration will have to be given to closing the gaps in the more important sets, particularly those from the Connecticut Academy of Arts and Sciences, the Proceedings of the Academy of Natural Sciences of Philadelphia, and the Annals of the New York Academy of Sciences.

3. Recommendations For The Science/Technology Library.

- a) That each Department continue to survey the Library holdings for its discipline and to make appropriate recommendations to the Library.
- b) That each Department encourage the professional organizations for their discipline to sponsor lists of recommended library materials.
- c) Consideration be given to filling in the backfiles of general, interdisciplinary periodicals, i.e., Discovery, Nature, Compte Rendus, New Scientist, etc.
- d) That more attention be given to the acquisition of undergraduate textbooks to supplement the reading of poorly prepared students and to assist the scholar seeking a simple discussion of phenomena outside his field.
- e) That continuous attention be given to library holdings at WSU so that the best use can be made of our library funds and so that area resources can be developed to the advantage of both schools.
- f) That a library representative or liaison officer be appointed at a College and/or Department level to work with the librarian in the selection of library materials.
- g) That each Department on campus coordinate the growth of library materials for their discipline with their Departmental counterpart on the WSU campus in order that regional resources may be strengthened.

4. Tables Showing General Breakdown Of The Collection.

a.

TABLE I

LIBRARY HOLDINGS IN SCIENCE/TECHNOLOGY 1958-1967

	BOOKS		PERIODICALS	
	Natural Sciences	Applied Sciences	Natural Sciences	Applied Sciences
1958	13,281	22,604	7,284	18,172
1960	15,142	21,460	8,421	22,808
1962	17,665	25,535	9,795	24,764
1964	20,910	29,803	12,194	26,646
1966	23,778	30,206	14,426	27,505
1967	26,490 ¹	31,435 ²	16,341 ¹	27,451 ²

b.

TABLE II

(From Farber's Classified List of Periodicals for the College Library) (13)

<u>SUBJECT</u>	<u>TITLES AT IDAHO (1968)</u>	<u>1959</u>	<u>1968</u>
Biology	36 out of 36	Not Covered	100%
Chemistry	21 out of 21	86%	100%
General Science	20 out of 20	95%	100%
Geography	10 out of 10	Not Covered	100%
Geology	11 out of 11	82%	100%
Home Economics	17 out of 18	Not Covered	94%
Mathematics	10 out of 11	82%	91%
Physics	19 out of 19	95%	100%

¹Includes geography, anthropology, pure sciences (GS-GN, Q)

²Includes physical education, medicine, agriculture and technology (GV, R-T)

c.

TABLE III

(From Brown's Most-Cited Periodicals Lists)(26)

<u>SUBJECT</u>	<u>TITLES AT IDAHO (1968)</u>	<u>1959</u>	<u>1968</u>
Botany	24 out of 25	87%	96%
Chemistry	23 out of 25	93%	93%
Entomology	21 out of 25	67%	84%
Geology	20 out of 25	80%	80%
Mathematics	19 out of 25	60%	73%
Physics	25 out of 25	80%	100%
Physiology	16 out of 25	53%	64%
Zoology	18 out of 25	67%	72%

d.

TABLE IV

(From Ulrich's International Periodicals Directory)(2)

<u>SUBJECT</u>	<u>TITLES NOW AT IDAHO</u>	<u>1959</u>	<u>1968</u>
Aeronautics	21 out of 233	Not Covered	9%
Agriculture (including Dairying and Livestock)	132 out of 654	29%	20%
Biological Sciences (including General Biology, Biophysics)	59 out of 219	32%	27%
Botany	67 out of 152	43%	44%
Chemistry (not included below)	45 out of 210	24%	21%
Analytical	8 out of 20	Not Covered	40%
Biological	18 out of 45	Not Covered	40%
Organic	4 out of 21	Not Covered	19%
Physical	7 out of 30	Not Covered	23%
Crystallography	1 out of 7	Not Covered	14%
Cytology and Histology	7 out of 17	Not Covered	41%
Electricity and Magnetism	30 out of 313	Not Covered	9%
Engineering (not including below)	25 out of 272	11%	9%
Chemical	15 out of 48	Not Covered	31%
Civil	19 out of 137	Not Covered	14%
Electrical	See Electricity and Magnetism	Above	
Mechanical	15 out of 95	Not Covered	16%
Entomology	52 out of 80	70%	65%
Fish and Fisheries	9 out of 61	19%	15%
Forest Sciences (not including below)	29 out of 57	24%	51%
Lumber and Wood	16 out of 46	Not Covered	35%
Conservation	16 out of 65	Not Covered	26%
Genetics	15 out of 29	Not Covered	52%
Geology (not including below)	38 out of 167	23%	23%
Geography	19 out of 145	Not Covered	13%
Mines and Mineral Resources	19 out of 158	Not Covered	12%
Geophysics	14 out of 57	Not Covered	25%
Paleontology	7 out of 28	Not Covered	25%
Water and Water Supply	10 out of 87	Not Covered	12%
Metallurgy	12 out of 251	Not Covered	5%
Meteorology	15 out of 49	Not Covered	31%
Oceanography	3 out of 31	Not Covered	10%
Mathematics	53 out of 225	18%	24%

TABLE IV Ulrich's (con't)

Medicine	53 out of 1449	Not Covered	4%
Missiles and Space	8 out of 55	Not Covered	15%
Microbiology	8 out of 27	Not Covered	30%
Microscopy	3 out of 12	19%	25%
Nuclear Energy	14 out of 86	Not Covered	16%
Optics	9 out of 26	Not Covered	35%
Ornithology	7 out of 85	Not Covered	8%
Physics	48 out of 169	19%	28%
Physiology	8 out of 35	Not Covered	23%
Veterinary Science	11 out of 66	36%	17%
Zoology	26 out of 124	31%	21%

e.

TABLE V

(From Deason, A Guide To Science Reading) (3)

<u>SUBJECT</u>	<u>TITLES AT IDAHO (1968)</u>	<u>PERCENT</u>
Anatomy	1 out of 6	17%
Animal Ecology	12 out of 21	57%
Biochemistry	8 out of 13	62%
Biogeography	4 out of 9	44%
Biology	9 out of 27	33%
Botany	4 out of 21	19%
Chemistry (not including below)	2 out of 18	11%
History of Chemistry	3 out of 11	28%
Inorganic	2 out of 7	29%
Organic	0 out of 4	0%
Earth Sciences (not including below)	5 out of 11	45%
Crystallography	2 out of 3	67%
Geophysics	4 out of 9	44%
History of Geology	4 out of 4	100%
Meteorology	2 out of 15	13%
Mineralogy	0 out of 4	0%
Oceanography	3 out of 8	38%
Paleontology	2 out of 5	40%
Engineering (not including below)	5 out of 14	36%
Aeronautics and Astronautics	1 out of 27	4%
Electrical	1 out of 30	3%
Nuclear	0 out of 3	0%
Evolution	15 out of 31	51%
Genetics and Heredity	13 out of 28	46%
Geography and Exploration	2 out of 12	17%
Histology and Cytology	2 out of 7	29%
Mammals	8 out of 14	57%
Mathematics (not including below)	11 out of 48	23%
Algebra	9 out of 18	50%
Calculus	3 out of 10	30%
Computers	1 out of 14	7%
Geometry	4 out of 14	29%
History of Mathematics	10 out of 17	59%
Probability and Statistics	5 out of 12	41%
Trigonometry	0 out of 3	0%

TABLE V Deason (con't)

Medicine	4 out of 14	29%
Microbiology	5 out of 14	36%
Natural History and Conservation	11 out of 19	49%
Physiology	7 out of 24	29%
Physics (not including below)	7 out of 21	33%
Atomic and Nuclear Physics	9 out of 40	23%
Electricity and Magnetism	2 out of 16	13%
Heat	0 out of 4	0%
History of Physics	8 out of 26	30%
Mechanics	1 out of 12	8%
Optics	6 out of 12	50%
Relativity	5 out of 10	50%
Sound	3 out of 7	49%
Zoology (not including below)	6 out of 16	37%
Fish, Amphibians, Reptiles, Birds	6 out of 22	27%
Invertebrate	13 out of 19	68%
Vertebrate	4 out of 13	31%

f.

TABLE VI

(CUPM, Basic Library List)(5)

<u>SECTION</u>	<u>LIBRARY HAS TITLES</u>
Background and Orientation	13 out of 14
Algebra	33 out of 38
Analysis	57 out of 73
Applied Mathematics	35 out of 57
Geometry - Topology	28 out of 38
Logic, Foundations and Set Theory	20 out of 23
Probability - Statistics	10 out of 17
Number Theory	12 out of 16
Miscellaneous	18 out of 27

g.

TABLE VII

(Voigt, Books For College Libraries)(9)

<u>SUBJECT</u>	<u>NUMBER LISTED</u>	<u>LIBRARY HAS</u>
General Science (Q)	288	139
Mathematics (QA)	588	324
Physics (QC)	536	265
Chemistry (QD)	349	203
Geology (QE)	231	123
Natural History and Biology (QH)	386	220
Botany (QK)	129	105
Zoology (QL)	336	196
Bacteriology (QR)	37	29
Agriculture (S)	310	152
Civil Engineering (TA-TH)	45	26
Mechanical Engineering (TJ)	40	16
Electrical Engineering (TK)	88	27
Mining, Metallurgical and Petroleum Engineering (TN)	45	18
Chemical Engineering (TP)	52	20

PART II. ANALYSIS OF THE COLLECTION BY SUBJECT AREAS

A. MATHEMATICS

1. Discussion. Mathematics is a foundation discipline. Not only is a knowledge of mathematics essential to an understanding of our physical world, but many other disciplines lean heavily upon mathematics. It is characteristic of the literature of mathematics that much of it is stable with most of the work done in the past still important today.

Idaho currently receives 53 serial titles in mathematics which represents a 265% increase over the 20 serial titles received nine years ago. This increase has left us with many incomplete runs. Some consideration will have to be given soon to filling in these backfiles. The Library has 10 of the 11 mathematics journals mentioned in Farber (13), the Mathematical Gazette is missing, and 19 of the first 25 titles in Brown (26). We have 53 of the 225 journal titles from the mathematics section of Ulrich's (2) or 25%. This represents a 6% increase over 1959 when only 19% of the titles were available in our Library. Idaho's weakness continues to be foreign journals, both in English and in other languages. If the graduate program in mathematics is to develop, more foreign titles will have to be acquired. A better perspective of this problem can be obtained by examining Library holdings for the serials indexed in Mathematical Reviews. Of the 885 titles covered by this indexing service the Library has only 169. The titles not available at Idaho were, for the most part, those published outside the United States.

The book collection is small but capable of meeting most of the Department's requirements at its present level of support. There are two important exceptions. First, the Library should have more of the collected works by important mathematicians such as A.F. Mobius, Pogorelov, Courant, Cantor, Laplace, Cauchy, etc.; and second, the need for general college textbooks continues to be pressing. The latter is brought out quite clearly when comparing Library holdings with the titles listed in Deason (3). Of 136 titles the Library had only 43. Table V gives a further breakdown of mathematics holdings by special areas taken from Deason. The Library fared somewhat better with the more specialized titles in the Basic Library List prepared by CUPM for the Mathematical Association of America (5). This list, covering publications up to 1964, is intended to provide a beginning nucleus for a mathematics collection. The Library has 226 out of 303 titles included in the nine sections. Since many of these books are alternate selections, this would indicate that the Library has a fair collection of undergraduate mathematics books. A breakdown of holdings from the CUPM list is given in Table VI.

Both the American Mathematical Society and the Mathematical Association of America have well developed publishing programs. The Library receives all the "subject oriented" publications of the Mathematical Association of America and most of the publications from the American Mathematical Society. Many of the serial publications from these two Societies come to the Library on a standing order. There are, however, some deficiencies which should be noted. From the AMS we do not have: Chinese Mathematics-Acta; Lectures In Applied Mathematics given at the summer seminar held at the University of Colorado, 1960; Mathematics of the USSR-Sbornik; Mathematics of the USSR-Izvestija; Proceedings of the Steklov Institute of Mathematics in the Academy of Sciences of the USSR; Transactions of the Moscow Mathematical Society (in English); and Selected Papers of Richard Von Mises, 2 vols. In addition, there are gaps in some of the titles which the Library currently receives (see recommendations section of this report

for a list of these). All of the current publications from the London Mathematical Society are coming to the Library with the exception of Russian Mathematical Surveys.

2. Recommendations - Mathematics.

a) That the Department review and make recommendations for the priority in which they wish the following gaps filled:

LIBRARY HAS

- 1) Acta Mathematica (Uppsala). Vol. 108, 1962-
- 2) American Journal of Mathematics. Vol. 64, 1942-
- 3) London Mathematical Society, Journal. Vol. 40, 1965-
- 4) Mathematics Magazine. Vol. 37, 1964-
- 5) Mathematical Society of Japan, Journal. Vol. 17, 1965-
- 6) Mathematische Annalen. Vol. 1-152, 1869-1963; Vol. 158, 1965-
- 7) Mathematische Zeitschrift. Vol. 1-50; Vol. 71-80, 1959-1962/63; Vol. 87, 1964-
- 8) Yokohama Mathematical Journal. Vol. 14, 1966-
- 9) SIAM Review. Vol. 5, 1963-
- 10) Journal Für Die Reine und Angewandte Mathematik. Vol. 225, 1967-

b) That the following journals be reviewed by the Department and a priority assigned to each, indicating the order in which it should be purchased:

- 1) Paris. Universite. Institut Henri Poincare. Annales.
Sections A and B
- 2) Annali di Matematica
- 3) Mathematical Gazette
- 4) Archiv der Mathematik
- 5) Commentarii Mathematici Helvetici
- 6) Calcutta Mathematical Society. Bulletin
- 7) Journal D'Analyse Mathematique
- 8) Bulletin des Sciences Mathematiques
- 9) Proceedings of the Royal Society of Edinburgh, Section A
- 10) Edinburgh Mathematical Society, Proceedings
- 11) Mathematical and Physical Sciences
- 12) Mathematika
- 13) Chinese Mathematics-Acta
- 14) Journal of Differential Geometry
- 15) Journal de Mathematiques Pures et Appliquees
- 16) Royal Society of Edinburgh. Proceedings. Section A: Math/
Physics
- 17) Matematicheskii Sbornik

c) That the Department study the list of serials indexed in Mathematical Reviews and, in conjunction with their colleagues at WSU, make recommendations to strengthen regional resources.

d) That the Department consider a standing order for some of the more important publishers series:

- 1) Studies In Logic and the Foundations of Mathematics (North-Holland)
- 2) University Mathematical Texts (Interscience)
- 3) Athena Series-Selected Topics In Mathematics (Holt, Rinehart and Winston)
- 4) Ergebnisse Der Mathematik und Ihrer Grenzgebiete (Springer-Verlag)

- 5) Die Grundlehren der Mathematischen Wissenschaften (Springer-Verlag)
- 6) Pure and Applied Mathematics (Academic)

e) In accordance with Departmental recommendations the Library complete its holdings of the following publications of the American Mathematical Society:

- 1) Translations Series I and Series II
- 2) Selected Translations In Mathematical Statistics and Probability
- 3) Proceedings of Symposia In Pure Mathematics
- 4) Colloquium Publications
- 5) Mathematical Surveys

B. PHYSICS

1. Discussion. Physics is a discipline characterized by rapid change. For our purposes it includes the related areas of astrophysics, heat, light, sound, electricity, mechanics, small particles, and magnetism. In physics, as in most of the other sciences, the need for currency is of great consequence. This makes the periodical literature of primary importance. A small core of journals report a major share of the significant work. This group is dominated by the Physical Review, Journal of Chemical Physics, Nuovo Cimento, with four or five other titles.

The Library currently receives 93 serials classified in physics (QC), in contrast to the 23 physics journals we were receiving in 1958, or an increase of over 400%. Some of this increase is the result of reclassification, but there has been substantial growth in this area. From the sections in Ulrich's (2) covering physics, nuclear energy, and optics, the Library has 71 out of 281 journals. The missing titles are, for the most part, foreign journals or journals published in English covering fields which have only recently come into prominence - cryogenics, vacuum technology, solid state physics, dielectrics, and the laser/maser. The Library now receives all of the titles mentioned by Farber (13), and 25 out of the first 25 most-cited physics journals mentioned in Brown (26). Certainly it isn't necessary for this Library to acquire every title noted in these lists. However, some of these journals do merit careful consideration by the Department. The reader should consult the section of this report giving recommendations for a list of prospective titles.

The American Institute of Physics has been putting a major effort into documentation projects as well as into increasing the quality of the professional literature in physics. Of the 21 journals sponsored and/or published by AIP or by its member societies, the Library has 19, lacking the Program of the Acoustical Society of America, and the Physics Teacher. Of the 11 Soviet journals whose translation into English is sponsored by AIP the Library has only 4, a poor showing indeed.

The combined Institute of Physics and the Physical Society in Great Britain publish three scientific journals and an annual review. With the exception of the Journal of Scientific Instruments the Library has a complete file for each of these. The Library does not receive the new (1966) journal Physics Education. Nor does it have many of the monographic publications sponsored by these two professional groups. The Monographs For Students Series, Physics In Industry

Series, and Proceedings of Conferences are all incomplete.

Coverage by physics abstracting and indexing services is adequate for the Library's present needs. There is a complete file of Physics Abstracts and Chemical Abstracts which will serve most of the requirements of our faculty. However, as the physics program develops the Library should consider subscribing to a current awareness service and to some of the more specialized indexing services such as Solid State Abstracts together with parts of the Bulletin Signaletique.

In 1964, the AIP issued a pamphlet by Keenan and Atherton (7) in which the authors ranked journals and countries in the order of their contribution to the 1961 volume of Physics Abstracts. From the list of journals having the greatest number of abstracts in PA the Library currently receives 18 of the first 20. The two not at Idaho were Russian language journals which the Library has in English translation.

A comparison of monographic holdings with the physics titles listed in Deason (3) revealed that many of the basic works by authors such as Gamow, Heisenberg, Planck, Bridgman, and da Costa Andrade were missing. Out of the 148 titles mentioned by Deason the Library has 41. The reader should consult Tables V and VII for a more detailed breakdown of physics holdings.

In 1966 the AIP published a revised Check List of Books and Periodicals for an Undergraduate Physics Library (6). This is a list of books and journals selected by seven colleges and one university for their libraries. It constitutes a well chosen nucleus for any physics library. The emphasis is on the requirements for a basic undergraduate physics library with little attempt at coverage of the specialized research areas. The list contains 2,028 monographic and 66 journal titles. The Library was able to supply 1,033 of the books and 57 of the journals. Missing journal titles from this list have been included under the recommendations following this report and are marked AIP. Many of the classic monographs are missing and for others our Library had only the older editions.

The Library did not fare much better in its holdings of titles from the Voigt (9) list with 265 out of 536 titles listed. After studying the Deason (3), Voigt (9), and AIP (6) check lists, it would seem that not enough attention is being given to acquiring general (i.e. basic to intermediate) books which supply the background readings for undergraduate physics courses, and to the acquisition of new editions.

Finally, in order to round out the picture, the Library reviewed its ability to satisfy requests for material from the physics faculty by counting items listed in the terminal bibliographies from the 1965 volume of Reports on Progress in Physics. This volume is a fair cross section of the current work being done in physics. It includes articles on neutrino physics, photo-conductivity, crystal lattices, solid-state polymerization, etc. Of the approximately 1,556 cited items (books, journals, reports, etc.), the Library was able to supply 1,100. A large share of the items which could not be supplied were backfiles for journals currently received by the Library. This would indicate a need for depth in our holdings through the purchase of additional supporting runs of journals. This is particularly critical for journals not available in the Pacific Northwest. Some attention should also be given to acquiring more of the published proceedings, symposia, etc., from meetings of professional groups. These constitute a large and very important segment of the physics literature.

The American Journal of Physics publishes at irregular intervals a series of resource letters "... intended to guide college physicists to some of the literature and other teaching aids that may help them improve course contents in specified fields of physics..." While it is beyond the scope of this survey to incorporate these resource letters into this report, the reader should be aware of the existence of these lists of recommended materials on such specialized topics as angular momentum, the evolution of energy concepts, nuclear magnetic resonance, etc.

2. Recommendations - Physics

a) That consideration be given to strengthening physics holdings by completing or filling in selected backfiles for the following journals.

LIBRARY HAS

- 1) Applied Spectroscopy. Vol. 1-14, 17-18, 20, 1966-
- 2) Helvetica Physica Acta. Vol. 32, 1959-
- 3) Journal of Nuclear Energy: Parts A, B, and C. Vol. 21, 1967-
- 4) Journal of Scientific Instruments. Vol. 22, 1945-
- 5) Journal of Vacuum Science and Technology. Vol. 4, 1967-
- 6) Nuclear Engineering. Vol. 13, 1968-
- 7) Nuclear Physics. Vol. 74, 1965-
- 8) Nuovo Cimento. Vol. 11, 1959-
- 9) Physica. Vol. 25, 1959-
- 10) Proceedings of the Cambridge Philosophical Society: Mathematical & Physical Sciences. Vol. 36, 1940-
- 11) Progress of Theoretical Physics. Vol. 21, 1959-
- 12) Revue d'Optique. Vol. 42, 1963-
- 13) Solid State Electronics. Vol. 10, 1967-
- 14) Soviet Physics - Solid State. Vol. 7, 1965-
- 15) Tellus. Vol. 17, 1965-
- 16) Indian Journal of Pure and Applied Physics. Vol. 5, 1967-

b) That the following titles not now in the Library be reviewed by the Department and recommendations made to the Library relative to which new subscriptions are needed and in what priority they should be acquired:

- 1) Academy of Sciences of the USSR. Bulletin (Izvestia) Atmospheric and Oceanic Physics (AIP)
- 2) Acta Physica
- 3) Astrophysics and Space Science
- 4) Cahiers de Physique
- 5) Chinese Journal of Physics (AIP)
- 6) Communications in Mathematical Physics
- 7) Contemporary Physics: A Journal of Interpretation & Review (AIP)
- 8) Cryogenics (London)
- 9) Czechoslovak Journal of Physics
- 10) Dielectrics (London)
- 11) Fortschritte der Physik
- 12) Indian Journal of Physics
- 13) Infrared Physics
- 14) Institut Henri Poincare, Annales
- 15) International Journal of Solids and Structures
- 16) JETP Letters (AIP)
- 17) Journal of Applied Spectroscopy

- 18) Journal of Computational Physics
- 19) Journal of the Mechanics and Physics of Solids
- 20) Materials Science and Engineering
- 21) Nuclear Applications
- 22) Nuclear Design and Engineering
- 23) Nuclear Energy (London)
- 24) Nuclear Instruments and Methods (AIP)
- 25) Optica Acta
- 26) Physica Status Solidi
- 27) Physics
- 28) Physics Teacher (AIP)
- 29) Program of the Acoustical Society of America
- 30) Solid State Abstracts (AIP)
- 31) Soviet Journal of Nuclear Physics (AIP)
- 32) Soviet Physics - Semiconductors
- 33) Soviet Physics - Technical Physics (AIP)
- 34) Surface Science
- 35) Ultrasonics
- 36) Zeitschrift für Astrophysik (AIP)

c) That the Department consider the need for a current awareness periodical on the order of Current Papers In Physics published by the Institution of Electrical Engineers.

d) That the book collection be reviewed and more titles of general interest be acquired as well as new editions for texts now on the shelves.

e) That more attention be given to acquiring the published proceedings of important meetings, symposia, colloquia, etc.

f) That the Department review the publications issued or sponsored by the Institute of Physics and the Physical Society with a view to the acquisition of those which support our research or curriculum. For example, the Institute of Physics and Physical Society Conference Series.

g) That consideration be given to acquiring more publishers series possessing the caliber of Cambridge Monographs On Physics and the Springer Tracts In Natural Philosophy.

h) That all publications from the International Atomic Energy Agency be reviewed especially the journals Atomic Energy Review and Nuclear Fusion.

C. CHEMISTRY

1. Discussion. The Library is well equipped to support the Chemistry Department in its three-fold mission of, 1) fundamental research, 2) serving as a resource discipline for other programs on the campus, and 3) undergraduate level teaching. What weaknesses there are exist at the graduate level. However, the basic tools are available and the present level of support is sufficient provided no new programs are inaugurated.

The Library currently receives 106 serials classified in the chemistry (QD) section. This compares quite favorably with the 40 serials in chemistry and chemical technology which we received in 1959. All of the basic journals are present and most have complete holdings. However, there are some deficiencies in our holdings of foreign journals. These have been noted at the end of

this section. In the future there will be a greater need for Russian publications, although there seems to be no immediate demand beyond what we already have for these publications either in the original or English language edition.

The Library receives and has on file all the monographs and serial publications of the American Chemical Society with the exception of the sectional journals, as well as all periodicals (except the Russian journals in translation) and most of the monographic publications from the Chemical Society of Great Britain. The Library also receives the major journals issued by the national chemical societies in Germany, India, Japan (the Bulletin only), France, Belgium, Australia, Canada, etc.

The Library receives the journal Chemistry In Britain published by the Royal Institute of Chemistry, but has none of the Lecture Series, Monographs or Reports from the Institute. Nor does the Library have the Journal of the Royal Institute of Chemistry which merged with the Proceedings of the Chemical Society in 1964. The Library is somewhat stronger in its holdings of the publications from the Chemical Society, London. We regularly receive all parts of the Journal, Current Chemical Papers, Chemical Communications, Quarterly Reviews, and the Annual Reports on the Progress of Chemistry. However, no systematic attempt is being made to collect the Special Publications series of the Society. The Library has only numbers 1, 9, 11, 15-17 of the 20 published so far. Three important Russian journals are published monthly by the Chemical Society in English. They are Russian Journal of Physical Chemistry, Russian Journal of Inorganic Chemistry, and Russian Chemical Reviews. None of these are available at Idaho.

Of the 326 serials listed in the chemistry section of Ulrich's (2), the Library could supply 82. This represents a fair improvement over the 51 out of 210 titles we had in 1959. Ulrich divides the list of chemistry journals into five groups as follows: general, analytical, biological, organic, and physical. The reader should see Table IV for a breakdown of Library holdings under each group. This apparent shortage of journal titles is no great cause for alarm, since many of those we did not have were trade journals, industrial news letters, sectional notes from local groups within the national societies, or publications concerned with material of no interest at Idaho. All of the titles recommended by Farber (13) and 23 of the first 25 from Brown (26) are now available at Idaho. The Library has all of the journals listed in the 1966 report of the Committee on Teaching Aids of the Advisory Council on College Chemistry (28). However, from this list the Library was missing 5 of the 27 review serials mentioned and some Russian journals in English translation. From this same report the Library had 357 of the 548 monographic titles. Another indication of our strength in monographic titles is the availability of 191 out of the 349 titles mentioned in Voigt (9). Library holdings as given in this report, coupled with that from the Guidelines, would seem to indicate that some purchasing of monographs will be necessary in order to bring our holdings up to full strength. This will include the purchasing of new titles as well as some up-dating of editions now available in the Library.

Another measure of the Library's ability to meet the needs of its clientele is its ability to supply items indexed in the standard services as well as those mentioned in terminal bibliographies. Of the approximately 690 titles covered by the index Chemical Titles, the Library receives 232. Chemical Abstracts indexes approximately 13,500 serial publications of which Idaho receives 360. From Volume 6, 1964, of Progress in Inorganic Chemistry the Library could supply 736 of 950 items and from Progress in Physical Organic Chemistry Volume 3, 1965 the Library could supply 745 of 946 items. Although these are only two of the

many review serials in the chemistry section of the Library, they are typical of our ability to supply material and indicate fair holdings.

One type of publication in which we are weak is the multivolume Treatise or Handbuch. While we do have complete holdings of such important sets as Beilstein; Houben-Weyl; Elsevier; Sneed, Maynard and Brasted; Kolthoff; and Weissberger, we lack many other important series. We do not have Fresenius and G. Jander, Handbuch der Analytischen Chemie, nor does the Library have more than a dozen of the 190 plus sections of Gmelin. The Department may also wish to consider purchasing new editions of Heilbron and Rodd since they are in English and somewhat easier to use than Beilstein.

2. Recommendations - Chemistry

a) That the Department consider purchasing the new editions of either Heilbron Dictionary of Organic Compounds, 4th ed. 1965 (Library has 1953 edition) or Rodd's Chemistry of Carbon Compounds, 2nd ed., 1964- (Library has 1951 edition).

b) That consideration be given to placing standing order for publishers series such as:

- 1) Addison-Wesley Series In Chemistry
- 2) McGraw-Hill Series In Advanced Chemistry
- 3) Pergamon Press International Encyclopedia of Physical Chemistry and Chemical Physics
- 4) Pergamon Press International Series of Monographs on Organic Chemistry
- 5) the Special Publication Series from the Chemical Society

c) That the Department recommend the priority in which it wishes the following gaps filled:

- LIBRARY HAS
- 1) Acta Crystallographica. Vol. 1-6, 12, 1959-
 - 2) Advances in Colloid Science. Vol. 1, 3
 - 3) Advances in Spectroscopy. Vol. 1, 2, only
 - 4) Applied Spectroscopy. Vol. 20, 1966-
 - 5) Arkiv för Kemi. Vol. 23, 1965-
 - 6) Chemical Society of Japan. Bulletin. Vol. 22, 1949-
 - 7) Collection of Czechoslovak Chemical Communications. Vol. 24, 1959-
 - 8) Gazzetta Chimica Italiana. Vol. 89, 1959-
 - 9) Indian Chemical Society. Journal. Vol. 34, 1957-
 - 10) Journal of Catalysis. Vol. 5, 1966-
 - 11) Journal of Organometallic Chemistry. Vol. 5, 1966-
 - 12) Monatshefte für Chemie. Vol. 1-74, 90, 93, (1962)-
 - 13) Suomen Kemistilehti. Vol. 35, 1962-
 - 14) Talanta. Vol. 11, 1964-

d) That the following titles not now in the Library be reviewed by the Department and recommendations made to the Library relative to which new subscriptions are needed and in what priority:

- 1) Advances in Colloid and Interface Science
- 2) Advances in Quantum Chemistry
- 3) Annales de Chemie

- 4) Fortschritte der Chemischen Forschung (Springer)
- 5) Indian Journal of Chemistry (Pergamon)
- 6) Inorganic Chimica Acta
- 7) Israel Journal of Chemistry
- 8) Journal of Analytical Chemistry, USSR (translation of Zhurnal Analiticheskoi Khimii)
- 9) Makromolekulare Chemie
- 10) Progress in Reaction Kinetics (Pergamon)
- 11) Progress in Solid State Chemistry (Pergamon)
- 12) Progress in Stereochemistry
- 13) Radiochimica Acta
- 14) Russian Chemical Reviews
- 15) Russian Journal of Inorganic Chemistry (translation of Zhurnal Neorganicheskoi Khimii)
- 16) Russian Journal of Physical Chemistry (translation of Zhurnal Fizicheskoi Khimii)
- 17) Theoretica Chimica Acta

D. EARTH SCIENCES

1. Discussion. The College of Mines has suffered for many years from an acute lack of funds affecting all Departments within the College. Therefore, first priority should be given to the task of recovering the ground lost over the years when there were no funds available for books or journals. Such a recovery program was initiated two years ago and must continue if the College is to have the necessary library resources to support the needs of its curriculum and staff research. Indeed, some kind of special library appropriation will be required just to purchase the necessary backfiles to support the current research programs within the College.

In addition to the traditional fields of geology, geography, mineralogy, and paleontology, this section will briefly review Library holdings in the numerous areas related to the earth sciences such as metallurgy, meteorology, geophysics, geochemistry, hydrology, seismology, speleology, volcanology, etc. Because of the curricular pattern within the College, it will also cover mining, metallurgical, petroleum, and geological engineering.

Unless there is a major shift in the curriculum or in the research interests within the College, the present level of support is sufficient for such fields as mineralogy, geophysics, metallurgy, meteorology, seismology, petrology, and paleontology. The greatest needs are presently in the areas of mining engineering, geography, geochemistry, and hydrology with some attention given to volcanology. Hydrology is an area of special importance to Idaho because of the state's growing interest in her water resources.

The Library has the basic journals and a passable book collection for mineralogy, meteorology, metallurgy, geophysics, seismology, petrology, and paleontology, although the holdings for journals in paleontology lack depth since most of them started coming to Idaho within the past three years. Some new titles will need to be added as the metallurgy program develops, particularly in the areas of crystallography and ceramics. The number of journals currently received in each of these disciplines is as follows: mineralogy 5, geophysics 12, seismology 1, petrology 2, paleontology 7, volcanology 2, speleology 0, meteorology (QC 851) 10, metallurgy (TS) 9, geochemistry 2, hydrology 12, geography (G) 14, mining and petroleum engineering (TN) 45, and the aggregate earth

sciences (all QE) 81. It is possible to obtain some perspective on these holdings by comparing what the Library has with the number of titles listed for each discipline in Ulrich's (2) as follows: earth sciences, 38 out of 167; meteorology, 15 out of 49; water and water supply, 10 out of 87; metallurgy, 12 out of 251; geophysics, 14 out of 57; mines and mineral resources, 19 out of 158; paleontology, 7 out of 28; and geography, 19 out of 145. A special list of current geographical serials in English was prepared by Harris (25) in 1964. The Library can supply only 27 of the 117 titles listed. This is not a strong showing and emphasizes the need for more serials in all areas, particularly for serials published outside the U.S.

It is apparent from the above figures that much work remains to be done by the Library and the College in developing library resources. This is especially true of foreign titles, including those in English as well as those in other languages. In addition, more consideration must be given to acquiring enough depth in the present journal files to permit thorough retrospective literature searches. In considering titles to be added to the collection, it will be especially important to obtain more of the publications from the national and professional societies as well as from appropriate governmental agencies at the national, provincial, or state level.

Some years ago (1962) the Engineer's Council For Professional Development prepared a Selected Bibliography of Engineering Subjects for Metallurgical, Mining and Geological Engineering (27d). From this list, the Library can supply 128 out of 278 titles. Although this list is now seriously dated, much of the material is basic and should be available on this campus. More information on library holdings in the earth sciences can be obtained from Tables V and VII for Deason (3) and Voigt (9).

Another measure of a library's completeness is its ability to supply material covered by the standard indexing/abstracting services for a particular discipline. In this connection the Library ranks as follows: from the Bibliography of North American Geology the Library receives 215 of the 554 titles indexed, from the Bibliography and Index of Geology Exclusive of North America the Library receives 94 out of 436 serials, a poor showing indeed. Since the Library does not receive Geomorphological Abstracts published by the Department of Geography, London School of Economics, it was impossible to compare our holdings with those covered by this service.

Publications of international congresses as well as those issued or sponsored by the professional societies are an especially important segment of the earth science literature. Worth special consideration are publications from the following: International Geographical Congress (the 20th was held in 1964. Library has only the 17th), International Geological Congress (Library has 18th-21st), Geological Society of America, American Geological Institute, American Meteorological Society, American Society For Metals, all member groups of the American Institute of Mining, Metallurgical, and Petroleum Engineers, Societe Geologique de France, Deutschen Geologischen Gesellschaft, Australasian Institute of Mining and Metallurgy, South African Institution of Mining and Metallurgy, Institute of Metals, Canadian Institute of Mining and Metallurgy, American Association of Petroleum Geologists, American Geographical Society, Association of American Geographers, etc.

The Library has all of the publications of the Geological Society of America with the exception of Engineering Geology Case Histories for which only numbers 2-5 are available at Idaho. The Library is not quite so strong in its

holdings of publications from the American Geological Institute, lacking all of the translated monographs and the English translation of the Earth Science section from Doklady. Nor does the Library contain the International Field Institute Guidebooks for Brazil and the Paris Basin, the book on the Chain Silicates by D.E. Appleman, and the Geological Data Sheets, all of which are published by the A.G.I.

The American Meteorological Society has an equally strong publishing program. The Library has current subscriptions to each of the four periodicals and to the abstracting service published by the AMS. However, the Library has complete files for only the abstracting service and the Journal of Applied Meteorology. Of the 8 books, historical monographs, and conference proceedings published by the Society, the Library has four. We need one of the translations and could use their cumulative list of translations. The Library has a standing order for all Meteorological Monographs and now owns all parts which are in print. The semi-popular journal Weatherwise published a list of English language books and journals in meteorology in 1965 (24). From this list the Library has 12 of the 17 periodicals and 47 of the 124 books listed. Missing from our collection were the popular non-fiction read by the educated layman and the elementary texts. Our holdings were much stronger in the "Advanced Texts" and "Special Subject" portions of this list.

The Library has a well stocked collection of U.S. Government documents and is equipped to answer requests for most of the publications from the U.S. Geological Survey and the U.S. Bureau of Mines. The only exceptions to this are those few items from the Bureau or the Survey which do not come as depository items. Here the only significant gap exists in U.S.G.S. Circulars for which the Library has large and irregular gaps.

2. Recommendations - Earth Sciences

a) That a systematic effort to exchange professional publications with other national, local, and regional groups be initiated in the Library with the help of College of Mines personnel. It is anticipated that such a program would offer publications from the College on an exchange basis with the permission of the Dean and with all material coming directly to the Library. This program could well begin by exploring exchange agreements with the following: all states bordering Idaho especially Oregon Department of Geology and Mineral Industries, the California Division of Mines (Bulletin, Reports, Mineral Information Service and Special Reports), Canadian Department of Mines and Technical Surveys (Mineral Reports, Mineral Information Bulletin, Research Report, Technical Bulletin and Water Survey Reports), Canadian Geological Survey (Bulletin, Economic Geology Series), etc.

b) That more attention be given to acquiring the professional monographic publications from the following Institutes, Associations, and Societies on standing order:

- 1) American Association of Petroleum Geologists. Library has Memoirs 1 and 2 only.
- 2) Association of American Geographers, Monograph Series. Library has numbers 1, 2, 4.
- 3) Canadian Institute of Mining and Metallurgy, Special Volumes. Library has number 8 only.
- 4) Chicago. University. Department of Geography. Library has numbers 22, 39, 50, 53, 57, 61, 63, 64-67, 69-109, 111 to date.

- 5) Geological Society of America, Engineering Geology Case Histories. Library has numbers 2-5 (1964).
- 6) Institute of Metals (Great Britain) Monograph and Report Series. Library has numbers 1, 3, 7, 28.
- 7) Lund Studies in Geography. Library has Series A, nothing; Series B, numbers 24, 26; and Series C, numbers 1 and 2.
- 8) Metallurgical Society (AIME), Conference Volumes. Library has number 27 only, the Sorby Centennial Symposium.
- 9) Society of Economic Paleontologists and Mineralogists, Special Publication. Library has numbers 7, 10, 12, 13.

c) That the staff within the College of Mines review the following list and indicate to the Library which gaps it wishes filled and in what priority:

LIBRARY HAS

- 1) Australian Institute of Mining and Metallurgy, Proceedings. No. 223, 1967-
- 2) Beitrage zur Mineralogie und Petrographie. Vol. 11, 1964-
- 3) Bulletin de la Societe Geologique de France. 1954-1957, 1962-
- 4) Bulletin of Canadian Petroleum Geology. Vol. 13, 1965-
- 5) Canadian Institute of Mining and Metallurgy, Transactions. Vol. 35-50 (1932-1947) and Vol. 68, 1965-
- 6) Canadian Mineralogist. Vol. 7, 1962-
- 7) Chemie Der Erde. Vol. 24, 1965-
- 8) Chronique des Mines et de la Recherche Miniere. Vol. 35, no. 318, 1967-
- 9) Clay Minerals Bulletin. Vol. 5 (no. 27), 1962-
- 10) Earth Science. Vol. 18, 1965-
- 11) Geological Association of Canada. Proceedings. Vol. 1-5, 16, 1965-
- 12) Geological Society of Australia, Journal. Vol. 14, 1967-
- 13) Geological Society of Japan, Journal. Vol. 7, 1965-
- 14) Geological Society of South Africa, Transactions. Many gaps need filling.
- 15) Geologie en Mijnbouw. Vol. 42 and 44, 1965-
- 16) Institution of Mining & Metallurgy, London. Transactions. Vol. 8-21, 36-38, 52-73, 75 (1966)-
- 17) International Mineral Processing Congress. Numbers 5 (1960), 6 (1963), 7 (1964)
- 18) Journal of the Less Common Metals. Vol. 5, 1963-
- 19) Methods in Geochemistry and Geophysics. Numbers 3 and 4.
- 20) Micropaleontology. Vol. 11, 1965-
- 21) Mineralogical Magazine. Vol. 31, 1956-
- 22) Norsk Geologisk Tidsskrift. Vol. 45, 1965-
- 23) Palaeontology. Vol. 8, 1965-
- 24) Petermanns Geographische Mitteilungen. Vol. 111, 1967-
- 25) Professional Geographer. Vol. 16, 1964-
- 26) Sedimentology. Vol. 4, 1965-
- 27) Tijdschrift Voor Economische en Sociale Geografie. Vol. 58, 1967-
- 28) Zeitschrift der Deutschen Geologischen Gesellschaft. Vol. 114, 1962-

d) That the following titles not now in the Library be reviewed by the College and recommendations made to the Library relative to which new subscriptions are needed and in what priority:

- 1) Academy of Sciences of the USSR. Bulletin (Izvestiya). Atmospheric and Oceanic Physics Series. English edition.
- 2) Academy of Sciences of the USSR. Doklady. Earth Sciences Sections. English edition.
- 3) Acta Geologica
- 4) Arkiv for Geofysik
- 5) Arkiv for Mineralogi och Geologi
- 6) Association de Geographes Francais. Bulletin
- 7) Atmosphere
- 8) Australasian Institute of Mining and Metallurgy. Proceedings
- 9) Australian Geographer
- 10) Australian Geographical Studies
- 11) Australian Institute of Metals. Journal
- 12) British Ceramic Society, Journal, Proceedings, & Transactions
- 13) British Museum (Natural History) Bulletin. Geology
- 14) Bulletin of American Paleontology
- 15) Bulletin of Canadian Meteorology
- 16) Bureau de Recherches Geologiques et Minieres. Bulletin
- 17) Canadian Geophysical Bulletin. Annual
- 18) Canadian Geotechnical Journal
- 19) Chemical Geology
- 20) Coal Mining Institute of America. Proceedings
- 21) Colliery Engineering (London)
- 22) Corrosion Prevention and Control
- 23) Cushman Foundation For Foraminiferal Research. Contributions
- 24) Earth and Planetary Science Letters
- 25) Eclogae Geologicae Helvetiae
- 26) Erdkunde: Archiv für Wissenschaftliche Geographie
- 27) Fortschritte der Mineralogie
- 28) Geografisk Tidsskrift
- 29) Geological Society of India. Bulletin
- 30) Geological, Mining and Metallurgical Society of India. Bulletin
- 31) Geologist's Association. Proceedings
- 32) Indian Geographical Journal
- 33) Institute of British Geographers. Transactions & Publications
- 34) International Journal of Powder Metallurgy
- 35) International Journal of Rock Mechanics and Mining Sciences
- 36) International Journal of Speleology
- 37) Israel Journal of Earth Sciences
- 38) Japanese Journal of Geology and Geography (text in English)
- 39) Journal of Applied Crystallography
- 40) Journal of Physics of the Earth
- 41) Marine Geology
- 42) Metallurgia (Great Britain)
- 43) Minerals Processing
- 44) Mining and Mineral Engineering (London)
- 45) Mining Electrical and Mechanical Engineer
- 46) Mining Engineer (London)
- 47) Modern Metals
- 48) National Speleological Society. Bulletin
- 49) Neues Jahrbuch Für Geologie und Paläontologie. Abhandlungen and Monatshefte
- 50) New Zealand Geographer
- 51) Palaeobotany and Palynology
- 52) Paleontological Journal. Translation from the Russian sponsored by AGI

- 53) Sedimentary Geology
- 54) Societe Belge de Geologie, de Paleontologie et d'Hydrologie.
Bulletin
- 55) Societe Geologique de Belgique. Annales
- 56) South African Mining and Engineering Journal
- 57) Soviet Mining Science
- 58) Tectonophysics
- 59) Tschermaks Mineralogische und Petrographische Mitteilungen
- 60) Zeitschrift für Angewandte Geologie
- 61) Zeitschrift für Geophysik
- 62) Zeitschrift für Kristallographie

e) That the faculty within the College of Mines be asked to review the missing books as listed in Voigt (9) and Deason (3) in order to submit titles they wish to purchase.

f) That consideration be given to the acquisition of selected publishers series on standing order. The Library now receives on standing order, Developments in Sedimentology (American Elsevier), and International Series of Monographs in Earth Sciences (Macmillan). Consideration should be given to adding to this list the Foundations of Earth Science Series (Prentice-Hall), International Geophysics Series (Academic), with Minerals, Rocks, and Inorganic Materials (Springer-Verlag) plus any additional series the staff in the College may indicate.

E. BIOLOGICAL SCIENCES (PLANT KINGDOM)

1. Discussion. The Library collection for botany (QK) is moderately well prepared to meet the demands currently being made upon it by faculty and students. In addition to supporting the curricular and research needs of the staff in the Department of Biological Sciences, Library holdings in the plant sciences are important resources for many other disciplines on our campus. As the research interests of the faculty grow, especially those within the Department, the collection will have to follow suit. Primarily, this means the emerging of special fields of excellence within the Library collection, an increase in the number and type of foreign publications, more foreign language publications, and the acquisition of more ephemeral or seldom used types of library material.

The Library has made considerable progress in recent years, especially in the areas of plant physiology and mycology. Many new journals have been added in a variety of subjects. The reader will note evidence of this in the large number of journals for which our holdings begin in the early 1960's. Most of the basic journals are available at Idaho with complete holdings, for example, American Journal of Botany, Botanical Gazette, etc. The Library currently receives 76 serials in the plant sciences, including journals in botany, plant physiology, mycology, phytopathology, etc., and can supply 24 of the first 25 most cited serials listed in Brown (26). The only title mentioned in Brown not available at Idaho, Jahrbuch für Wissenschaftliche Botanik, has ceased and there is some question about the wisdom of having a set at both Idaho and WSU.

Of the serial titles listed under botany in Ulrich's (2) the Library can supply 67 out of 152. The more important missing titles have been submitted with the recommendations section of this report. The Library fared somewhat better in its ability to supply items mentioned in terminal bibliographies. From the 1963 volume of Advances in Botanical Research the Library was able to supply 438 of the 693 items mentioned. One rather interesting fact which emerged

from this survey was the frequency with which journals normally thought of as being outside the field of botany are cited in the botanical literature. This is much more than a matter of one or two references. It involves the frequent and consistent use of journals from other fields to support certain types of botanical research. These include such journals as the Physical Review, the Journal of Chemical Physics, Journal of the American Chemical Society, etc. This same observation also applies to the so-called "general" science journals which attempt to publish material from all fields, i.e., Nature (London), Science, Naturwissenschaften, Proceedings of the National Academy of Science (Washington), etc. These also appeared with consistent regularity in the terminal bibliographies and therefore should be available in complete or near complete runs at Idaho. Indeed, botany suffers as much as any of the other disciplines from a lack of material in supporting disciplines. In addition to the examples given above, some support will have to be given to the ancillary areas of molecular biology and genetics.

As far as the monographs were concerned, the Library has the basic reference tools mentioned by Ewan (16) and many that he did not mention. With the exception of regional floras covering areas outside the U.S., the Library is well prepared to meet the demands made upon it for general botany sources, having a high percentage of the titles listed in both Voigt (9) and Deason (3). Some notable exceptions were Gordon E. Fogg's book, the Metabolism of Algae (1953), David D. Davies book, Intermediary Metabolism in Plants (1961), and Jacques Barrau's Plants and the Migrations of Pacific Peoples; A Symposium (1963).

On the basis of the evidence submitted above it would appear that the Library is well equipped to fill the needs for so-called "standard" journals and texts, and ready to begin specialization, i.e., the collection of research materials beyond the basic publications necessary for work at the undergraduate or master's levels. In following such a course it is absolutely essential that the Library have the full cooperation and guidance of the Department.

2. Recommendations - Biological Sciences

a) That consideration be given to acquiring all publications from the International Congresses of Botany. Sessions 1-4, and 6 (1900-1935) have been reprinted and are available at this writing. The Library has numbers 4 (1926), 6 (1935), 7 (1950), and 9 (1959).

b) That the following titles not now in the Library be reviewed by the Department and recommendations made to the Library relative to which new subscriptions are needed and in what priority:

- 1) Angewandte Botanik
- 2) Botanical Magazine (Tokyo)
- 3) Botaniska Notiser
- 4) Curtis's Botanical Magazine
- 5) Dansk Botanisk Arkiv
- 6) Feddes Repertorium; Zeitschrift für Botanische Taxonomie und Geobotanik
- 7) Fortschritte der Botanik
- 8) Friesia
- 9) Genetica Agraria
- 10) Genetika
- 11) Journal of Biochemical Genetics
- 12) Linnean Society of London. Proceedings (Botany)

- 13) Mutation Research
- 14) New Zealand Journal of Botany
- 15) Österreichische Botanische Zeitschrift
- 16) Pollen et Spores
- 17) Pflanzenschutz-Berichte
- 18) Societe Royale de Botanique de Belgique. Bulletin.
- 19) Zeitschrift für Pflanzenphysiologie
- 20) Zeitschrift für Pilzkunde

c) That the Department recommend to the Library the priority in which it wishes the following gaps closed:

LIBRARY HAS

- 1) Acta Botanica Neerlandica. Vol. 12, 1963-
- 2) Bibliotheca Botanica. No. 125, 1963-
- 3) Botanische Jahrbücher für Systematik... Vol. 81, 1962-
- 4) Botanisk Tidskrift. Vol. 59, 1963-
- 5) Deutsche Botanische Gesellschaft. Berichte. Vol. 76, 1963-
- 6) Flora. Vol. 152, 1962-
- 7) Fortschritte der Botanik. Vol. 20, 1957-
- 8) Heredity. Vol. 20, 1965-
- 9) Indian Journal of Genetics and Plant Breeding. Vol. 27, 1967-
- 10) Indian Journal of Plant Physiology. Vol. 5, 1962-
- 11) Journal of Molecular Biology. Vol. 2 (1960), Vol. 8, 1964-
- 12) Kew Bulletin. Vol. 16, 1962-
- 13) La Cellule: Recueil de Cytologie et d'Histologie. Vol. 66, 1966-
- 14) Linnean Society of London. Journal. Vol. 53, 1946-
- 15) Mycopathologia et Mycologia Applicata. Vol. 16, 1962-
- 16) Nova Hedwigia. Vol. 9, 1965-
- 17) Persoonia. Vol. 3, 1964-
- 18) Planta. Vol. 52, 1959-
- 19) Revue Generale de Botanique. Vol. 70, 1963-
- 20) Societe Botanique de France. Bulletin. Vol. 109, 1962-
- 21) Societe Francaise de Physiologie Vegetale. Bulletin. Vol. 9, 1963-
- 22) Societe Mycologique de France, Bulletin Trimestriel. Vol. 80, 1964-
- 23) Taxon. Vol. 11, 1962-

F. BIOLOGICAL SCIENCES (ANIMAL KINGDOM)

1. Discussion. With the possible exception of a few specialized areas, one of which is entomology, Library holdings in the zoological sciences are weak and poorly prepared to meet the needs of the Department. Entomology is discussed elsewhere in this report and will not be a part of this section. Library holdings to be discussed here cover the zoological and biological sciences with the exception of the plant kingdom which also merits a section by itself.

Zoology (QL) is a fundamental discipline yet has one of the smallest library collections. This part of the Library is especially critical because it serves as a resource area for so many other disciplines. Library holdings in the general biology or natural history (QH) section are not much better and both sections badly need upgrading. The University of Idaho currently receives 61 serial publications classified in zoology (QL) and 118 classified in general biology (QH). This would appear to be a fairly satisfactory representation

until one considers that Ulrich's (2) lists 124 journals in zoology, 219 for biology, 35 for physiology, 85 for ornithology, 12 for microscopy, 29 for genetics, and 17 for cytology and histology. Of these the Library has 26 journals in zoology, 59 in biology, 7 in cytology and histology, 15 in genetics, 3 in microscopy, 7 in ornithology, and 8 in physiology. The reader should realize that Biological Abstracts covers 12 to 15 times this number of serials in the biological sciences, giving Idaho an even smaller percentage of the total number of serials in this field.

On the more positive side the Library can provide 18 of the first 25 most cited zoology serials in Brown (26) and all of the "essential" journals recommended for biology libraries by the AIBS Subcommittee on Facilities and Standards (15). However, this does not give the entire picture since many of these titles have incomplete holdings. Indeed, one of the biggest problems to be faced in building up our zoology library will be that of giving the collection some depth in the basic titles such as the Proceedings of the Zoological Society of London, the Journal of Experimental Biology, and the Bulletin of the Museum of Comparative Zoology at Harvard. A list of additional titles with large gaps accompanies this section under the recommendations.

There are also large gaps in many of the basic reference materials in zoology. With the exception of the 15th and one volume from the 16th, the Library does not have any of the Proceedings from the International Congresses of Zoology. In addition, many of the large multivolume Handbuch and Traite series are incomplete or missing altogether. The Library has all of Grasse's Traite de Zoologie and part of Bronn's Klassen und Ordnungen..., but none of Kükenthal's Handbuch der Zoologie or F. Schulz's Das Tierreich. Nor is the Library any better prepared to supply scholarly publications from the professional societies and institutions. The Library has complete holdings, as far as they are available, of the Symposia from the Zoological Society of London, but lacks many of the Symposia from the Institute of Biology, the Memoirs from the Society for Endocrinology, the Special Publications from the American Society of Mammalogists, Symposia from the Society For Developmental Biology, and the scholarly publications from the Commonwealth Institute of Biological Control. Undoubtedly, members of the Department can suggest other society publications which should be considered for purchase.

Much work also needs to be done in acquiring the monographic holdings for zoology and biology. A number of important classics are missing, including books by G.G. Simpson, G. de Beer, Sir Wilfrid Clark, L.J. Milne and Reginald H. Smythe. Further complicating this problem are the large number of superseded editions still in the Library. We need the new Arcey text on Developmental Anatomy, Hamilton on human embryology, Macfadyen on Animal Ecology, etc. Of 336 titles mentioned in the zoology (QL) section of Voigt's guide (9), the Library could supply only 196; and 220 out of 386 from the biology (QH) section. There are major gaps in the areas of ethology, anatomy, Aves, Mollusca, and Amphibia. The reader should also note Table V from Deason (3) for holdings in biology and related disciplines. The Library is somewhat better prepared to support requests for material from the terminal bibliographies which accompany the review literature. The Survey of Biological Progress, Volume IV for 1962, contained 1,421 references in 6 terminal bibliographies. The Library could satisfy 1,226 of these requests. A much less satisfactory situation existed in Volume 1, 1964 of International Review of General and Experimental Zoology, where the Library was able to supply only 572 items from a list of 1,028.

Another area to which the Department could well give some consideration is the acquisition of more museum publications as well as standing orders for selected publishers series. One example of such a series comes from Pergamon and is titled International Series of Monographs in Pure and Applied Biology. Another series published by Springer-Verlag is called Results and Problems in Cell Differentiation. Museum publications are not expensive, as a rule, yet offer a valuable source of material. Important publications are issued by the Harvard Museum of Comparative Zoology, the Philadelphia Academy of Sciences, the Cranbrook Institute of Science, the British Museum (Natural History), the Royal Ontario Museum, National Museum of Canada, and the Bernice P. Bishop Museum in Honolulu.

One important book selection tool not covered in this report but worth special mention here is a listing prepared for the Society of Systematic Zoology by R.E. Blackwelder (1). This bibliography is an attempt to gather under one cover a list of all books in print covering some aspect of zoology. It is an extremely useful library tool and makes an excellent point of departure for building a collection.

Other useful yardsticks against which a library can measure its holdings are the bibliographies published from time to time in BioScience. It is beyond the scope of this report to present a complete list of these bibliographies. However, a few examples are given here to illustrate the type of material available: amphibians and reptiles (29), biotelemetry (30), mammalogy (31), entomology (17), embryology (32), animal ecology (33), etc. In using these bibliographies the reader will note some discrepancies in the citations. However, the items cited are for the most part standard and are good examples of what should be available in any school where a graduate or strong undergraduate program in the field is being offered.

2. Recommendations - Biological Sciences

a) That the Department review the numerous publications issued by professional societies, institutions, associations and museums, and submit to the Library a list of those which it feels should be acquired or filled in. A few examples are submitted here, but the Department should not limit its choices to these examples: Symposia from the Institute of Biology, International Society For Cell Biology, and Society For Developmental Biology; Special Publications from the American Society of Mammalogists; Memoirs from the Society For Endocrinology; Technical Communications and Technical Bulletins from the Commonwealth Institute of Biological Control; the Transactions of the Zoological Society of London, as well as the Proceedings of the Linnean Society of London.

b) That the Department recommend to the Library which of the Proceedings from the International Congresses in Zoology it wishes acquired.

c) That the following titles not now in the Library be reviewed by the Department and recommendations made to the Library relative to which new subscriptions are needed and in what priority they should be acquired:

- 1) Acta Anatomica
- 2) Acta Biologica
- 3) Acta Endocrinology
- 4) Acta Theriologica
- 5) Acta Protozoologica

- 6) Acta Zoologica (Sweden)
- 7) Anatomischer Anzeiger
- 8) Angewandte Parasitologie
- 9) Annales Des Science Naturelles. Zoologie et Biologie Animale
- 10) Antibiotics & Chemotherapy
- 11) Archiv für Protistenkunde
- 12) Archives de Zoologie Experimentale et Generale
- 13) Arkiv För Zoologi
- 14) Berichte über die Gesamte Biologie
- 15) Biological Photographic Association, Journal
- 16) Biophysical Journal
- 17) Breviora
- 18) Enzymologia
- 19) Fortschritte de Zoologie
- 20) General & Comparative Endocrinology
- 21) Israel Journal of Zoology
- 22) Journal de Physiologie
- 23) Journal of Clinical Endocrinology
- 24) Journal of Embryology & Experimental Morphology
- 25) Journal of Reproduction and Fertility
- 26) Journal of the Institute of Biology
- 27) Oceanography and Marine Biology (Hafner Publishing Company)
- 28) Pflügers Archiv für die Gesamte Physiologie des Menschen und der Tiere
- 29) Revue Suisse de Zoology
- 30) Saugetierkundliche Mitteilungen
- 31) Societe Zoologique de France, Bulletin
- 32) Virchows Archiv für Pathologie Anatomie und Physiologie und für Klinische Medizin
- 33) Wilhelm Roux Archiv: A Journal of Developmental Biology (Springer)
- 34) Yale Journal of Biology and Medicine
- 35) Zeitschrift für Anatomie und Entwicklungsgeschichte
- 36) Zeitschrift für Angewandte Zoologie
- 37) Zeitschrift für Biologie
- 38) Zeitschrift für Morphologie und Ökologie der Tiere
- 39) Zeitschrift für Vergleichende Physiologie
- 40) Zeitschrift für Wissenschaftliche Zoologie
- 41) Zeitschrift für Wissenschaftliche Zoologie. Abt. A.
- 42) Zentralblatt für Bakteriologie...
- 43) Zoologische Beiträge
- 44) Zoologische Jahrbücher

d) That the Department recommend to the Library the order in which it wishes the following gaps filled:

LIBRARY HAS

- 1) American Museum of Natural History. Bulletin. A few missing numbers
- 2) Animal Behavior. Vol. 10, 1962-
- 3) Annals & Magazine of Natural History. Ser. 13, Vol. 2-9, 1959-1966
- 4) Annals of Tropical Medicine and Parasitology. Vol. 52, 1958-
- 5) L'Annee Biologique. Serie 4, 1962-
- 6) Behaviour. Vol. 19, 1962-
- 7) Biologisches Zentralblatt. Vol. 57-60, 1937-1940, Vol. 78, 1959-

- 8) Cytogenetics. Vol. 5, 1966-
- 9) Developmental Biology. Vol. 4, 1962-
- 10) Growth. Vol. 29, 1965-
- 11) Harvard University. Bulletin of the Museum of Comparative Zoology. Vol. 126, 1962-
- 12) Heredity. Vol. 20, 1965-
- 13) Indian Journal of Experimental Biology. Vol. 5, 1967-
- 14) Journal of Anatomy. Vol. 88, 1954-
- 15) Journal of Applied Ecology. Vol. 4, 1967-
- 16) Journal of Experimental Biology. Vol. 22, 1945-
- 17) Journal of Molecular Biology. Vol. 8, 1964-
- 18) Journal of Ultrastructure Research. Vol. 7, 1962-
- 19) Life Sciences. Vol. 6, 1967-
- 20) Marine Biological Association of the United Kingdom, Journal. Vol. 42, 1962-
- 21) New Zealand Ecological Society. Proceedings. No. 14, 1967-
- 22) Royal Society of London. Proceedings. Series B. Biological Sciences. Vol. 137, 1950-
- 23) Societe de Biologie. Comptes Rendus des Seances. Vol. 157, 1963-
- 24) Terre et Vie. Vol. 114, 1967-
- 25) Toronto. Royal Ontario Museum. Life Sciences Division. Contributions. Library has some numbers, but no current subscription
- 26) Zeitschrift für Säugetierkunde. Vol. 27, 1962-
- 27) Zoologica. Vol. 33, 1948-
- 28) Zoological Society of London. Proceedings. Vol. 120, 1950-
- 29) Zoologischer Anzeiger. Vol. 170, 1963-

e) The indexing/abstracting services should be completed with all missing numbers in the Zoological Record and the biology, botany, and zoology volumes of the International Catalog of Scientific Literature purchased for Library.

G. ENTOMOLOGY

1. Discussion. The entomology collection is one of the strongest, best developed and, it should be stated, most heavily used in the Library. The Department is active and research oriented. Both the College of Agriculture and the College of Forestry are working in this area, and there has been some interest in developing Idaho's collection as a regional resource in entomology. The literature of entomology is large, stable, and dependent upon many related areas such as genetics, ecology, zoology, chemistry, etc. The early literature remains important and does not become dated to the extent that occurs in the engineering or physical sciences.

This Library currently receives 73 serial titles in entomology, an increase of 280% over the 26 titles we received in 1959. However, a few of these titles have large gaps which need to be filled. If the graduate program is to continue to grow, some attention will have to be given soon to filling in these runs. This is particularly critical for those runs of serials which are not available in the region.

The Library can supply 52 out of the 80 titles listed in Ulrich's (2), and 21 out of 25 titles listed in Brown (26). This is a decided improvement over the collection of ten years ago when the Library received only 26 serials in

entomology. Our collection is strong in the basic English language journals. However, more foreign journals will be needed to adequately support research in this discipline.

The Library is receiving all of the publications from the American Entomological Society and most of the publications from the Entomological Society of America as well as from the Royal Entomological Society of London. From the latter we lack two of the Symposia, several of the monographic publications, the Proceedings of the XIIth International Congress of Entomology and two of their Handbooks. The Library does not have the Bulletin Volume 6 of the Thomas Say Foundation Publications or beyond number 1 of the Miscellaneous Publications from the Entomological Society of America.

The book collection is extensive and capable of supporting the Department's teaching and research programs. The Library can supply 34 of the 38 titles listed under entomology in Voigt (9). If the collection continues to receive the attention it has received in the past, this part of the Library will remain a valuable bulwark to our program.

In checking the terminal bibliographies from volume 10 (1965) of the Annual Review of Entomology, it was discovered that the Library is able to supply 1,507 of the 2,134 items cited. This is an acceptable showing. An interesting point here is that most of the missing items were from the foreign entomological journals or from journals whose primary emphasis lies in disciplines other than entomology such as zoology, chemistry, etc., which indicates a need for supporting materials in these areas. The Library fared somewhat better with the Downey (17) bibliography on insects. Here we were able to supply 65 of the 89 items listed.

By way of summing up, the collection suffers from three deficiencies. First, it lacks a strong supporting collection in the zoological sciences. Second, it needs a comprehensive taxonomic work of international scope, and third, more foreign serials. To a lesser degree, the collection needs more backfiles for its foreign serials in order to give the entomology collection greater depth.

2. Recommendations - Entomology

a) That consideration be given to completing the Library's holdings of a significant taxonomic work on the order of Genera Insectorum.

b) That a major effort be made to build up the zoology, biology, and botany collections. The reader should note the sections of this survey covering the Biological Sciences (Animal Kingdom and Plant Kingdom).

c) That some attention be given to the acquisition of serial backfiles with greatest emphasis to be placed on acquiring foreign titles not available in the region. The Department is requested to indicate priorities from among the following titles and to add any titles which they feel are important:

LIBRARY HAS

- 1) EOS: Revista Espanola de Entomologia. Vol. 38, 1962 to date with a scattering of earlier volumes
- 2) Entomologische Arbeiten. Vol. 14, 1964-
- 3) Entomologists' Gazette. Vol. 13, 1962-
- 4) Schweizerische Entomologische Gesellschaft, Mitteilungen. Vol. 36, 1963-

- 5) Société Entomologique de France, Annales. Vol. 1, N.S., 1965-
Bulletin. Vol. 63, 1958-
- 6) Société Royale d'Entomologie de Belgique, Bulletin and Annales.
Vol. 86-98, 1950-1962, but no current subscription

d) That more emphasis be placed on acquiring foreign publications, especially those not in English, with the Department to review the following titles and recommend those which they feel should be available at Idaho and/or are necessary only as regional holdings:

- 1) Alexanor
- 2) Anzeiger Für Schadlingskunde
- 3) Entomological Society of Japan, Journal
- 4) Deutsche Entomologische Gesellschaft, Mitteilungen
- 5) Deutsche Entomologische Zeitschrift
- 6) Entomologist's Record
- 7) Entomologische Berichten
- 8) Entomologische Zeitschrift
- 9) Entomologist
- 10) Entomological Society of Japan, Journal
- 11) Indian Journal of Entomology
- 12) Notulae Entomologicae
- 13) Society For British Entomology, Transactions

e) That consideration be given to acquiring all Supplements to the Entomological Series of the Bulletin of the British Museum (Natural History).

H. FOREST SCIENCES

1. Discussion. This discussion of Library holdings in the forest sciences includes all forestry and forestry-related library materials covering range management, wood utilization, forest economics, forest pathology, soils, etc., as well as the related areas of fisheries and wildlife management. The Library at Idaho is, for the most part, in excellent shape in these areas and well prepared to support the curricular and research needs of the College. There are a few trade journals and some regional publications missing, but these are minor and do not detract from the overall strength of the collection. This statement will have to be qualified in the case of the wildlife and fishery programs where strong resource collections in the botanical and zoological sciences are missing. In addition, some attention will have to be given soon to acquiring more publications from outside the U.S. and to the development of Library holdings in specialized research areas such as meteorology, forest soils, hydrology, economics, forest recreation, tropical forestry, etc., as the interests of the faculty ripen and develop. However, the collection as it now stands will support most of the staff-research and doctoral programs within the College.

The Library currently receives a large and varied number of forestry serials. These include publications from professional and trade groups all over the world, universities and colleges where forestry is taught, company publications, governmental publications of all types, symposia and proceedings of international meetings, etc. The Library currently receives 178 serials classified in the SD or forestry section of the Library. This does not include the 55 serials classed in the wood technology (15) section or the 71 forestry serials classed with the U.S. Government Documents. Nor do these figures include the numerous serials no longer being published, serials used by the College staff which have been classified in other areas over the Library such as the Timber

Tax Journal (HJ), the 33 serials classified in fishery biology (SH), and the 27 serials in wildlife management (SK).

On a more selective basis the Library is able to supply from Ulrich's guide (2) the following serial titles: Forests and Forestry section, 29 out of 57 titles; Lumber and Wood section, 16 out of 46 titles; Fish and Fisheries section, 9 out of 61; and from the list of conservation journals including wildlife management, 16 out of 65 titles. However, it should be pointed out here that not all of these journals fit into our curriculum or will be of interest to our faculty. Despite what may appear on the surface to be deficiencies, the actual strength of the collection is now equal to the demands being placed upon it. The Library has all of the basic journals and is well along in the process of building a research collection. The overall picture is one of a strong collection, well able to meet the needs of its users. When compared with a 1964 List of Serials in the Library from the College of Forestry at Syracuse University, Idaho had available 615 of the 904 titles listed. This is a strong showing and has increased in the intervening four years.

The monograph collection is equally strong and viable, and needs little attention beyond that presently being given to it. From the Society of American Foresters check list compiled by Eakin (18), the Library had everything except the most ephemeral items.

Another measure of a library's ability to meet the needs of its clientele is its ability to supply items referred to in terminal bibliographies. From Volume 2, 1967 of the International Review of Forestry Research the Library can supply 611 out of the 1,012 items mentioned. The Library could not supply the European theses, some Japanese and Russian journals, and the early issues for many of the journals it currently receives. This would indicate that more depth is necessary in our journal holdings, especially in our holdings of European journals.

The wildlife management and fishery biology sections of the Library leave much to be desired. Both Departments have graduate programs but lack the necessary depth in their library holdings to mount a full scale literature search. The greatest weakness, and one which affects both areas, is the scarcity of library materials in the biological sciences. Some of the deficiencies in this collection are made up by extensive holdings in U.S. Government Documents. More material from other governmental agencies (Canada, U.S., states within the U.S.) would strengthen library holdings for a minimum cost. Indeed, many of these publications could be obtained on an exchange basis at little or no cost to the University.

2. Recommendations - Forest Sciences

a) That more of the publications issued or sponsored by governmental units (states, provinces, etc.) over the world be obtained for the Library on an exchange agreement when possible, but purchased if necessary. For example, all publications of the Canadian Wildlife Service should be placed on standing order except those which are obviously reprints or have appeared in other places.

b) That the faculty in the College of Forestry review the following gaps and submit to the Library the priority in which they wish these gaps filled:

LIBRARY HAS

- 1) APPITA. Vol. 17, 1964-
- 2) Allgemeine Forst und Jagdzeitung. Vol. 89-110, 121-131, 135 (1964)-

- 3) Archiv für Fishereiwissenschaft. Vol. 13, 1962-
- 4) Bulletin Francais de Pisciculture. No. 208, 1963-
- 5) C.S.I.R.O. Wildlife Research. Vol. 11, 1966-
- 6) Canadian Audubon. Vol. 29, 1967-
- 7) Dansk Skovforenings Tidsskrift. Vol. 49, 1964-
- 8) Deep Sea Research. Vol. 5, 1958/59; Vol. 11, 1964-
- 9) Drottingholm. Report. Missing numbers are 1, 3, 5, 7, 20-21
- 10) Forstarkiv. Vol. 33, 1962-
- 11) Forstwissenschaftliches Centralblatt. Vol. 68, 1948 to date
with some mixed holdings before 1948
- 12) Holz Als Roh-und Werkstoff. Vol. 9, 1951-
- 13) Holzforschung. Vol. 2, 1948-
- 14) International Union of Game Biologists, Transactions. 3rd
Congress (1957), and 6th Congress (1963)
- 15) Japanese Society of Scientific Fisheries. Bulletin. Vol.
29, 1963-
- 16) Journal du Conseil. Vol. 27, 1962-
- 17) Journal Forestier Suisse. Vol. 72-92 (1921-41); Vol. 113,
1962-
- 18) Journal of the Fisheries Research Board of Canada. Vol. 8,
1950-
- 19) Journal of the Marine Biological Association of the United
Kingdom. Vol. 42, 1962-
- 20) Maine Fish and Game. Vol. 9, 1966/67-
- 21) School of Forestry. North Carolina State College. Technical
Reports. Nos. 1-3, 7-8
- 22) Zeitschrift für Fischerei und deren Hilfswissenschaften.
Vol. 14, 1966-
- 23) Zeitschrift für Jagdwissenschaft. Vol. 8, 1962-

c) That the following titles not now in the Library be reviewed by the College and recommendations made to the Library relative to which new subscriptions are needed and in what priority:

- 1) Angewandte Bot.
- 2) Board Manufacture (Great Britain)
- 3) Centre Technique Du Bois. Bulletin d'Information Techniques
- 4) Finnish Paper and Timber
- 5) Forst-und Holzwirt
- 6) Holztechnologie
- 7) Holz-Zentralblatt
- 8) Indian Forest Bulletin (Dehra Dun)
- 9) Indian Forest Records. New Series. Dehra Dun.

Botany	Mycology	Wood Seasoning
Composite Wood	Siliviculture	
Entomology	Statistical	
Forest Pathology	Timber Mechanics	
- 10) Journal of Agricultural Meteorology (Japan)
- 11) Journal of the Japan Wood Research Society
- 12) Operations Forestieres et de Scierie (Montreal, Canada)
- 13) Plywood Magazine
- 14) Suomen Puutalous (text in Finnish)
- 15) Sylvan (Polish journal published in Russian and English)
- 16) Timber Bulletin For Europe (FAO)
- 17) Timber Development Association of India. Journal
- 18) Travaruindustrien/Timber Industry (Sweden)
- 19) Wetter und Leben

I. ENGINEERING SCIENCES

1. General Engineering. The engineering sciences require a broad spectrum of library materials to support their curricular and research activities. The collection, as it now stands, is uneven and reflects past problems with limited funds and a certain amount of disinterest on the part of some departments. In the future, the College will require additional financial support in all areas, with careful consideration being given to library holdings before new courses are offered or new research projects initiated.

For purposes of this discussion the engineering sciences have been divided into two areas as follows: 1) a general evaluation of the total engineering holdings, and 2) a detailed examination of holdings for agricultural, chemical, civil, electrical, and mechanical engineering. Each section is followed by a list of recommendations. Related disciplines will be discussed, as they apply, under the separate headings or in the section devoted to General Engineering materials. For example, nuclear, automotive, ceramic, aeronautical, industrial, astronautical, hydraulic, safety, transportation, and sanitary engineering will be briefly covered under General Engineering because the University currently has no course work at the Departmental level in these areas. Mining engineering is treated in the section on Earth Sciences because of the curricular pattern at Idaho.

There are a number of excellent yardsticks against which the Library can measure its holdings (19). The Engineers' Council For Professional Development has published a series of bibliographies listing important texts in aeronautical (27a), civil (27b), ceramic (27c), metallurgical, mining, and geological (27d), mechanical (27e), electrical (27f), chemical (27g), and industrial engineering (27h). Many other professional societies also publish lists of recommended books and journals. These will be discussed under the appropriate subject.

The engineering collection has some serious gaps in its holdings of the trade and professional journals, with only 155 titles out of 192 from the Applied Science and Technology Index, 503 out of the more than 1,850 titles covered by the Engineering Index, and 25 out of 272 titles listed under General Engineering in Ulrich's (2). However, many of the missing titles from the latter are house organs, journals with a limited circulation, organizational news bulletins or chapter publications, and as such are not appropriate for our needs at Idaho. Although this situation is not as serious as would appear at first glance, there is much room for improvement. The most glaring deficiencies exist in the serials published outside the U.S., including those in English as well as those published in other languages.

Several areas are in need of special attention because they have not been offered at the departmental level in the College of Engineering curriculum, and therefore, have received little if any direct support over the years. These areas are as follows: aeronautical engineering, ergonomics, industrial engineering, operations research, computer technology, sanitary engineering, transportation engineering, applied mathematics, and nuclear engineering, to name only a few. For most of these disciplines the Library owns three or four basic journals, usually with incomplete holdings, a small book collection, a few of the standard handbooks, and no more. Library holdings in each of these areas should be reviewed and strengthened by one of the departments within the College. The Library's ability to supply materials for these disciplines, measured against the recommendations of the ECPD lists, is as follows: aeronautical engineering,

62 out of 242; industrial engineering, 58 out of 138; chemical engineering, 115 out of 172; civil engineering, 65 out of 91; mining engineering, 129 out of 278; mechanical engineering, 75 out of 130; and electrical engineering, 72 out of 119. The reader should also note the appropriate sections in Tables VII and V for Voigt (9) and Deason (3), which include a further analysis of the collection.

It is apparent from the above discussion that the Library has many gaps, outdated editions, and superseded texts. For example, in aeronautical and astronautical engineering the Library has excellent holdings of NASA and NACA publications but lacks much of the early work on aerodynamics, particularly the publications of Von Karman. Library holdings of the publications from the NATO Advisory Group for Aeronautical Research (for example, AGARD Guided Missiles Seminar, General Assembly Proceedings, and Reports) as well as the early German work on flight and rocketry are also inadequate. Out of the five journals sponsored by SIAM (Society For Industrial and Applied Mathematics) the Library receives only three. In addition, some attention must be given to strengthening all areas with more publications of the monographic type, especially the handbooks; more exchange of publications with other engineering experiment stations; more journals in subject fields not having departmental status; and finally, a thorough weeding out of all dated and superseded materials by qualified personnel from the College of Engineering.

Supporting the engineering collections is a large, well-balanced collection of U.S. Government documents. The University of Idaho acts as a regional depository library and, in this capacity, automatically receives a large share of this material, including journals, tables, patents, indexing/abstracting journals, hearings, laws, and a portion of the "report" literature. The documents collection is weakest in its holdings of non-depository material, such as the publications issued by regional offices of the Corps of Engineers, the U.S. Waterways Experiment Station, Air Force Cambridge Research Laboratories, Naval Research Laboratory, U.S. Coastal Engineering Research Center, Atomic Energy Commission, Army Aviation Material Laboratories, etc. However, the Library does have extensive holdings of some non-depository items from U.S. Government agencies, for example, the Cold Regions Research & Engineering Laboratory in New Hampshire. There are many similar groups publishing outside the U.S. Government Printing Office, and more attention should be given to the acquisition of their publications.

One large block of non-GPO literature of special importance to the engineer is the "report." This kind of material is now easily available from the Defense Documentation Center, which announces new reports in the index U.S. Government Research & Development Reports. More of the "report" publications should be obtained for the Library, especially since most of them are available free or for a nominal charge.

a) Engineering - General Recommendations

1) That appropriate faculty members in the College be asked to review Library holdings in their areas in the light of Voigt (9), Deason (3), the ECPD (27) lists, their professional society publications, and the current lists of in-print engineering books, in order to take whatever steps may be necessary to eliminate those gaps affecting the engineering curriculum or staff research efforts. Three examples of handbooks deserving consideration are: James Harry Potter's Handbook of the Engineering Sciences, 2 volumes, Van

Nostrand; the Society of Plastics Engineers handbook Engineering Design For Plastics published by the Society; and the manual published by the American Institute of Steel Construction titled, Steel Construction. It would also be worthwhile for all Departments within the College to consider putting into the Library a few of the basic textbooks (except those intended for class use), since our students come in various states of readiness and often need some review of basic principles.

2) That the exchange of publications between our College of Engineering and similar groups over the world be expanded and strengthened with a systematic effort to bring these publications to our campus on an exchange basis.

3) That the College of Engineering faculty take steps to familiarize itself and its students with the material available in the U.S. Government Documents collection. As part of such a project the Library will require some assistance from the College in the selection of non-depository Government publications. The faculty should indicate which titles and series they wish to have available. Some examples of such material follow: U.S. Waterways Experiment Station (Miscellaneous Papers, Research Reports, Technical Reports), Air Force Cambridge Research Laboratories (Physical Sciences Research Papers, AFCRL Series, Environmental Research Papers), Naval Research Laboratory (NRL Reports), Air Force Systems Command (Technical Reports, ASD-TR Series), Navy Underwater Sound Reference Laboratory (USRL Research Reports), Office of Aerospace Research (ARL Series), etc.

4) That the College of Engineering review the following list of journals not now available in the University Library and make recommendations in the light of their curricular and research needs:

1. Advanced Energy Conversion (Pergamon)
2. Aeronautical Quarterly (published in London by the Royal Aeronautical Society)
3. Air and Water Pollution (Pergamon)
4. American Gas Association, Monthly
5. Applied Materials Research (London)
6. Astronautica Acta
7. Atmospheric Environment
8. Australasian Engineer
9. Automation
10. Ceramic Industry
11. Combustion and Flame (Combustion Institute)
12. Control (London)
13. Corrosion Prevention and Control
14. Corrosion Science
15. Corrosion Technology
16. Cost Engineering
17. Cryogenics
18. Engineering and Instrumentation
19. Engineering Institute of Canada, Transactions
20. Engineering Materials and Design (London)
21. Environmental Engineering
22. Ergonomics (published by Ergonomics Research Society)
23. Forschung auf dem Gebiete des Ingenieurwesens
24. Heat and Mass Transfer

25. IBM Systems Journal
26. Industrial Finishing
27. Industrial Medicine and Surgery
28. Industrial Quality Control (published by American Society for Quality Control)
29. Institution of Highway Engineers (London), Journal
30. Institution of Water Engineers (London), Journal
31. International Journal of Air and Water Pollution
32. International Journal of Engineering Science (Pergamon)
33. International Journal of Solids and Structures
34. Iron and Steel Engineer
35. Journal of Engineering Mathematics (Noordhoff)
36. Journal of Spacecraft and Rockets
37. Journal of Strain Analysis (Joint British Committee for Stress Analysis)
38. Journal of the British Nuclear Energy Society
39. Municipal Engineers Journal (New York)
40. Nuclear Energy Engineer
41. Periodica Polytechnica: Engineering
42. Photogrammetria (Netherlands)
43. Product Design Engineering
44. SIAM Journal of Control
45. SIAM Journal of Numerical Analysis
46. Soviet Hydrology
47. Surface Science
48. Technometrics; A journal of statistics for the physical and chemical engineering sciences (American Statistical Association)
49. VDI Berichte and the Zeitschrift from the Verein Deutscher Ingenieure
50. Water and Water Engineering

5) That the College of Engineering faculty recommend to the Library the priority in which it wishes the following gaps filled:

LIBRARY HAS

1. American Association of State Highway Officials. Proceedings. 1948-1953
2. American Astronautical Society. Proceedings. 4th-6th, 1957-1960
3. American Nuclear Society. Transactions. 1961-1964, 1966-
4. Combustion Institute. Symposia on Combustion. 6th, 1956, only
5. Ingenieur-Archiv. Vol. 36, 1967-
6. Institute of Traffic Engineers. Proceedings. 1947-1950
7. Instrument Society of America. ISA Transactions. Vol. 5, 1966-
8. International Atomic Energy Agency. Safety Series, nos. 5 & 7; Bibliography Series, nos. 9 & 16; Technical Reports Series, nos. 5 & 11
9. International Astronautical Congress. Proceedings. 13th, 1962
10. Journal of Environmental Sciences. Vol. 11, 1968-
11. Journal of Nuclear Materials. Vols. 1-16, 18, 23-
12. Journal of the American Society of Safety Engineers. Vol. 13, 1968-

13. Magazine of Standards. Vol. 35, 1964-
14. Materials Evaluation. Vol. 25, 1967-
15. Naval Engineers Journal. Vol. 75, 1963-
16. Nuclear Science and Engineering. Vol. 1, 3-
17. Safety Maintenance. Vol. 135, 1968-
18. Traffic Engineering. Vol. 31, 1960-
19. Traffic Engineering and Control. Vol. 4, 1962-
20. Traffic Quarterly. Vol. 13, 1959-

6) That the College of Engineering consider the possibility of initiating standing orders for the following:

1. The Addison-Wesley Series In Computer Science and Information Processing
2. Applied Physics and Engineering Series (Springer Verlag)
3. The Cambridge Engineering Series (Cambridge University Press)
4. International Series of Monographs on Nuclear Energy (Pergamon)
5. Pergamon Unified Engineering Series
6. The Rilem Symposia issued as Proceedings of the International Union of Testing and Research Laboratories For Materials and Structures
7. The SIAM Series in Applied Mathematics (books)
8. Wiley Series on the Science and Technology of Materials
9. Selected publications from the following groups: the ENO Foundation For Highway Traffic Control; American Association of State Highway Officials; Air Pollution Control Association; American Astronautical Society; Society of the Plastics Industry (for example, the Library does not have the SPI Plastics Engineering, 2nd ed.); Institute of Traffic Engineers (Annual and Technical Report); Society of Naval Architects and Marine Engineers (Transactions); American Society of Lubrication Engineers (ASLE Transactions); American Institute of Industrial Engineers (Proceedings); American Institute of Steel Construction (Engineering Journal and National Engineering Conference Proceedings); American Iron and Steel Institute (Papers and Steel Products Manual); Instrument Society of America (Annual ISA Conference Proceedings, Standards, etc.); Society of Instrument Technology (Transactions); Great Britain. DSIRO. Hydraulics Research Station. Research Papers; and the International Conferences (second published by University of Toronto Press in 1967) of the International Society For Terrain-Vehicle Systems.

2. Agricultural Engineering. The field of agricultural engineering touches so many other disciplines that it is difficult to characterize or evaluate library holdings for this discipline in terms of just the materials classified in the Agricultural Engineering (S671) section of the Library. Indeed, any assessment of Library holdings for agricultural engineering, discussed solely in terms of materials classed in this section, is an understatement of the total picture and does not accurately reflect how well or how poorly the Library meets the

needs of the agricultural engineer. For this reason, the reader should also review the sections of this report covering civil, mechanical, and general engineering, as well as meteorology, in order to place Library holdings in agricultural engineering in a more accurate perspective.

The Library has 14 serials classed in the S671 section of the Library. These include most of the serials issued by the American Society of Agricultural Engineers. When these are supplemented by publications from the other engineering societies (ASCE, SAE, ASME, etc.), they constitute an acceptable core collection. The Library has complete files of the ASAE Transactions, of the Yearbook, and of the journal Agricultural Engineering, but lacks many of the Conference Proceedings, Papers, and other supplementary publications from ASAE. The Papers are for the most part reprints from the Transactions and need not be acquired as such. However, many of the supplementary publications are subject bibliographies and could be quite useful as library tools.

In 1961 ASAE published the Agricultural Engineering Index edited by Carl W. Hall (14) covering books and journals issued between 1907-1960 in the field of agricultural engineering. Of the ten serials considered important enough to be indexed in this bibliography, the Library could supply only seven. The missing titles are important and have been included in the recommendations portion of this report. The Department should consider both the possibility of initiating current subscriptions as well as the purchase of backfiles for these titles. The Hall bibliography also included a list of 351 books. The Library could supply only 53 of these. Certainly there is no reason why the Library should attempt to acquire every book mentioned on this list. Indeed, many of these books have little pertinence to the curriculum at Idaho. However, the Library should attempt to acquire more recent editions for some of the standard texts as well as such basic items as: H.H. Nicholson, The Principles of Field Drainage, 2nd ed., Cambridge University Press, 1953; Wallace Ashby et. al., Modern Farm Buildings, Prentice-Hall, 1959; etc. It is also worth mentioning that the Library collection as it now stands contains a large number of books published in the 1920's and 1930's, together with many early editions of standard handbooks. This would suggest that a thorough weeding of the collection by personnel in the Department is in order, and that a small supplemental allocation would be made available to the Department in order to up-date the collection. Two other deficiencies need to be brought to the attention of the Department. The first is that the Library has Transactions from only one of the International Congresses of Agricultural Engineering and secondly, there is very little material in the collection in languages other than English.

Whatever deficiencies presently exist in the collection have been off-set to a large degree by a strong collection of U.S. Government Documents and by large holdings of Agricultural Experiment Station publications from over the U.S. Both are valuable assets to the agricultural engineer in that they contain important material, which is well indexed and available free or for a small cost. The entire collection would be greatly strengthened by a judicious selection of agricultural documents from other countries (Canada, New Zealand, Great Britain, etc.).

a) Recommendations - Agricultural Engineering

1) That the Department take stock of its Library needs in all fields and order whatever materials it feels are appropriate to the research and curricular requirements of its staff regardless of what discipline these materials may cover. However, before this is done, the Agricultural Engineering

Department should study carefully the holdings and recommendations made for these disciplines in this report.

2) That the Department indicate to the Library which holdings and in what priority it wishes the following gaps closed:

- a. International Congress of Agricultural Engineering. Library has only the Transactions of the 5th Brussels Conference, 1958
- b. Journal of Agricultural Engineering Research. Library has all except Vol. 3, no. 4, 1958

3) That the Department consider the following journals and recommend to the Library which it wishes to have placed on subscription:

- a. Canadian Agricultural Engineer
- b. Institution of Agricultural Engineers, Journal and Proceedings
- c. Landtechnische Forschung

3. Chemical Engineering. This section of the Library is reasonably well prepared to answer requests for material published in the U.S. including both books and journals. The Library currently receives 44 serials, both foreign and domestic, classified in the Chemical Technology (TP) section. These include all the basic journals (English language) in chemical engineering. Holdings are complete for most titles. The Library has a standing order for the A.I.Ch.E. Publications package and is reasonably well equipped to meet the needs of the Department for monographic materials, although some review and up-dating of holdings will be required in the latter. The Library should also attempt to build up its holdings of the publications issued and/or sponsored by the Institution of Chemical Engineers in Great Britain. From the Institution we have their two official journals, the Chemical Engineer and the Transactions, as well as numbers 1, 3, 5-9, and 11-13 of the Institution's Symposium Series, but lack the A.I.Ch.E. -I.Chem.E. Symposium Series and the Industrial Research Fellow Reports. The Institution has prepared a small brochure titled "Books For Students of Chemical Engineering" to aid students in Great Britain preparing for their professional examinations. It offers a good cross section of the standard texts in chemical technology, dimensional analysis, fluid flow and particle mechanics, fuel technology, heat and mass transfer, plant design, process calculation, etc. From this bibliography we have 68 out of 112 titles, lacking the British Standards and the Association of British Chemical Manufacturers' Safety Rules For Use In Chemical Works.

The Engineers' Council For Professional Development and A.I.Ch.E. have prepared lists of recommended library materials in chemical engineering. Of 172 titles mentioned in the ECPD list (27g), the Library has 115. A.I.Ch.E. published a fifth edition of their "Library List" in 1966. Of the items on this list, the Library has 420 out of the 1,124 books and 122 out of 185 journals. From the chemical engineering journals listed in Ulrich's (2), the Library has 15 out of 48 titles.

Obviously there are some deficiencies here which need attention. Especially important are new editions of basic works, missing volumes from sets, and standard handbooks which the Library does not have on corrosion, radiation hygiene, etc.

As the Department's graduate program develops, the Library's acquisition program will have to follow suit. At present the Department's greatest needs are for foreign journals, both those in English as well as those not in English, and to develop holdings in those disciplines which supply resource materials for the chemical engineer, such as applied mathematics, physics, and chemistry. In addition, some thought should be given to building up Library holdings in those areas for which the Chemical Engineering staff has exhibited a strong research interest, such as petroleum chemistry, heat transfer, fluid mechanics, infrared photography, cryogenics, electrochemistry, optics of lasers, etc.

a) Recommendations - Chemical Engineering

1) That the Department review the book lists prepared by A.I.Ch.E. and I.Chem.E. so that those titles which it deems pertinent to our curricular and research needs may be purchased.

2) That consideration be given to ordering all A.I.Ch.E.-I.Chem.E. Meeting Symposia.

3) That all missing numbers of the I.Chem.E. Symposium Series be filled in.

4) That SCI Monographs from the Society of Chemical Industry be considered for purchase.

5) That Department review and make recommendations to the Library regarding standing orders for the following publishers series:

- a. Interscience Library of Chemical Engineering and Processing
- b. International Series of Monographs in Chemical Engineering (Pergamon)
- c. Lectures In Applied Mathematics (Interscience)
- d. International Series of Monographs on Nuclear Energy (Pergamon)
- e. McGraw-Hill Series in Chemical Engineering
- f. The Monographs of the Electrochemical Society

6) That the following titles not now in the Library be reviewed by the Department and recommendations made to the Library relative to which new subscriptions are needed and in what priority:

- a. Advanced Energy Conversion
- b. Advances in Cryogenic Engineering
- c. Advances in Electrochemistry and Electrochemical Engineering (Interscience)
- d. Australian Chemical Engineering
- e. British Chemical Engineering
- f. British Plastics
- g. Ceramic Industry
- h. Chemical and Process Engineering (Leonard Hill)
- i. Chemical Engineering (Khimicheskoe Mashinostroenie)
- j. Doklady Chemical Technology
- k. European Chemical News
- l. Industrial Chemist and Chemical Manufacturer
- m. Journal of Applied Chemistry, London

- n. Journal of Applied Chemistry of the USSR
- o. Journal of the Air Pollution Control Association
- p. Physics and Chemistry of Liquids
- q. The Plastics Institute, Transactions and Journal
- r. Plastics Technology
- s. Proceedings of the Chemical Engineering Group of the Society of Chemical Industry

7) The Department should review and make recommendations to the Library regarding the order in which they wish the following gaps closed:

LIBRARY HAS

- a. Advances In Petroleum Chemistry and Refining. Vol. 1 and 2
- b. Chimie-Ingenieur-Technik. Vol. 32-37, 1960-1965 and Vol. 39, 1967-
- c. Chemical Processing. Vol. 10, 1964-
- d. Chimie & Industrie - Genie Chimique. Vol. 98, 1967-
- e. Electrochimica Acta. Vol. 10, 1965-
- f. Heat Transfer and Fluid Mechanics Institute, Proceedings. 1951, 1953, 1955-1958, 1962-
- g. Progress In Ceramic Science. Vol. 1 and 2, 1961, 1962

8) That the Library consider subscribing to a specialized indexing service on the order of Theoretical Chemical Engineering Abstracts.

4. Civil Engineering. It is difficult to categorize the Library materials pertinent to civil engineering, since workers in this field use resources from the entire collection. However, this report will limit itself to a discussion of library materials classed in the TA-TH section of the Library. The Library currently receives 44 serials classed in Civil Engineering. This includes the ASCE Proceedings as one title, although the Proceedings is composed of journals from each of the technical divisions within the Society. From the section covering civil engineering journals in Ulrich's (2), the Library has 19 out of the 137 titles listed. However, these figures should cause no alarm, since there is little need for Idaho to own all of these titles. Indeed, many are trade journals, house organs, and limited-circulation journals which would not be pertinent to our curricular or research needs. What percentage will be required at Idaho should be determined by the Department. In fact, the staff in the Civil Engineering Department may wish to select additional titles from other areas such as physics, mathematics, general engineering, etc. and should be encouraged to do so. Some evaluation and review on the part of the Civil Engineering staff is necessary if the collection is to grow and become a serviceable tool for meeting their needs. Members of the Department will also find it helpful to review the recommendations made for other disciplines in this report, especially those following the section on General Engineering.

The book collection in the TA-TH section of the Library is in need of updating. There are a number of important reference manuals we do not have. For example, the Library does not have Frederick S. Merritt's Building Construction Handbook (McGraw, 2nd ed., 1965); the American Institute of Steel Construction Handbook, Steel Construction: A Manual for ... (AISC, 5th ed., 1959); or Stubb's Handbook of Heavy Construction (McGraw, 1959). From among the titles mentioned by Voigt (9), the Library should acquire: Irvine E. Morris, Handbook of Structural Design (Reinhold, 1963); the Papers from the Princeton University Conference, Engineering and World Water Resources (Princeton, 1963); and one or two

other titles of importance. The Library could supply only 65 of the 91 titles listed in the ECPD Bibliography (27b) covering civil engineering. This is another indication that the book collection needs attention. The collection will require some weeding and up-dating, in addition to the purchase of those volumes mentioned earlier, in order to bring it up to an acceptable operating level. One technique the Department may wish to consider, which assures that the Library will automatically receive new books as they are published, is to place standing orders for publishers series. When used with judgement and discretion this can be a very useful device for building library holdings in a given area. Many publishers issue such series. McGraw-Hill has three which will be of particular interest to the civil engineer, the Series in Civil Engineering, in Sanitary Science and Water Resources Engineering, and finally, the Series in Structural Engineering and Structural Mechanics.

With some minor exceptions, the Library is well equipped to answer requests for publications from the professional engineering societies within the U.S. related to civil engineering. Holdings for the Transactions and Proceedings from the American Society of Civil Engineers are complete or nearly so. However the Manuals and Reports of Engineering Practice, some of the General Publications, and some of the Technical Publications from ASCE are not available at Idaho. The Department could well review its policy on acquiring ASCE publications in order to strengthen Library holdings in this area. A major share of the Highway Research Board publications are now available, and there is a standing order for all HRB Series. However, only the Proceedings for 1946-1950 from the Institute of Traffic Engineers are in the collection. In addition, some effort will have to be made soon to acquire more of the publications from professional groups outside the U.S. This is especially important in the case of publications from the Institution of Civil Engineers in Great Britain, which sponsors a broad spectrum of Symposia, Research Reports, Conference Proceedings, and Institutions Proceedings.

The engineering publications in the Science/Technology Library are supported by a strong collection of U.S. Government Documents. However, these are limited, with some minor exceptions, to depository items. Some effort should be made to expand this collection in so far as engineering materials are concerned. For more discussion on government documents the reader is invited to study that section of this report covering General Engineering.

a) Recommendations - Civil Engineering

1) That the Department review the following journals not now in the Library and indicate the priority in which they wish to have subscriptions entered:

- a. American Surveyor and Photogrammetrist
- b. Civil Engineering and Public Works Review (Great Britain)
- c. Concrete and Constructional Engineering (Great Britain)
- d. Engineering and Contract Record
- e. Genie Civil (Library has some volumes but no current subscription)
- f. Institution of Engineers, Australia. Civil Engineering Transactions
- g. Journal of the Air Pollution Control Association
- h. Municipal Engineering (Great Britain)
- i. Rilem Bulletin

- j. Soil Mechanics and Foundation Engineering (English translation from Russian)
- k. Structural Engineer (Great Britain)
- l. Surveyor and Municipal Engineer (Great Britain)

2) That the Department review the following Library holdings of civil engineering materials and recommend the priority in which they wish these gaps filled:

LIBRARY HAS

- a. Earthquake Engineering Research Institute, Proceedings. 1952 only
- b. Institute of Traffic Engineers, Proceedings. 1946-1950
- c. International Association for Hydraulic Research, Proceedings of Congress. The 12th (1967) & 16th (1953)
- d. Institution of Civil Engineers (Great Britain) Proceedings. Vol. 6, 1957 to date with gaps
- e. New England Water Works Association Journal. Vol. 79, 1965-
- f. Symposium on Geology As Applied to Highway Engineering, Proceedings. Nos. 1-5, 7-12, 16 (1965)

5. Electrical Engineering. The Library currently receives 77 serials classed in the Electrical Engineering (TK) section. This includes publications on broadcasting, radio, electronics, electrical engineering, telephony, power sources, and one or two of the popular electronics and radio journals. Transactions from all of the IEEE professional groups and from the earlier IRE groups are available, but only a few of the IEEE-sponsored Convention or Conference publications have been purchased for the Library. Nor does the Library contain the Standards or the translated journals sponsored by IEEE with one exception, Telecommunications and Radio Engineering. In addition, the Library has incomplete holdings of the IEEE International Convention Record and lacks completely the Wescon Convention Record. Nevertheless, even with these qualifications, the collection is well stocked with publications from professional groups within the U.S. This is not the case with the publications issued by professional groups outside the U.S., including those in English as well as those in other languages. This area of the Library's holdings will require more attention as the Department expands its graduate program. The Institution of Electrical Engineers (Great Britain) issues Monographs, Conference Publications (no. 30 was published in 1967), Proceedings, Electronics Letters, a journal called Electronics & Power, and Electrical & Electronics Abstracts. The Library does not have any of the following from IEE: Monographs, Conference Publications, or Electronics Letters.

The electrical engineering book collection would profit from a thorough weeding and could use new editions for some of the outdated texts. For assistance in up-dating the collection the reader should review the titles given in Deason (3) and in Voigt (9). From the ECPD (27f) list of books in electrical engineering, now badly dated, the Library has 72 of the 119 titles mentioned. The EE collection is fairly well supported by books and journals classed in the mathematics (QA) and physics (QC) sections of the Library, where material on such subjects as computer technology, solid state physics, semiconductors, optics, magnetism, etc. is classed. The weakest of these sections is that containing computer technology, with no single group on campus systematically selecting material for this area.

Ulrich (2) lists 313 serial titles under electricity and magnetism. The Library has 30 of these. However, this is not as serious as would appear since

many of these are journals with a controlled circulation available only under limited circumstances, or were trade journals not applicable to the curricular pattern at Idaho. Of more significance is the fact that the Library was able to supply only 412 out of the 680 items cited in the terminal bibliographies following the chapters from Volume 23, 1967 of Advances In Electronics and Electron Physics. This volume contained articles on superconductors, magnetic fields, plasmas, image intensifiers, etc., and can be considered a fair indication of the Library's ability to supply material needed by the electrical engineer. Weak areas noted during this survey of Volume 23 were as follows: foreign publications in English and not in English, as well as publications on cryogenics, magnetic fields, and to a lesser degree plasmas. It is interesting to note that many of the items cited in these terminal bibliographies were classed in the physics portion of the Library. Because of this overlap in interest, the EE Department could profitably review the recommendations made earlier for physics in another section of this report.

a) Recommendations - Electrical Engineering

1) More attention should be given to the acquisition of professional society publications which are appropriate to the curricular pattern at Idaho. Especially important are the standards, conference proceedings, journals and translations issued or sponsored by IEEE (U.S.A.) and its British counterparts, the Institution of Electronic and Radio Engineers, and the Institution of Electrical Engineers.

Especially important are publications from the following conferences, conventions and congresses: National Convention on Military Electronics, National Symposium on Quality Control and Reliability In Electronics, National Communications Symposium, Eastern Joint Computer Conference Proceedings, Electronic Components Conference Proceedings, International Conference on Nonlinear Magnetism Proceedings, and the American Federation of Information Processing Societies.

2) That consideration be given to the initiation of standing orders for the following publishers series:

- a. Harper's Series in Electrical Engineering
- b. McGraw-Hill Electrical Engineering Series
- c. Prentice-Hall Electrical Engineering Series
- d. Wiley Series in Electronic Engineering Technology

3) That the EE Department review the following titles and recommend a priority for the acquisition of those titles which they feel will best meet the curricular and research needs at Idaho:

- a. Acta Electronica
- b. Canadian Electronics Engineering
- c. Electrical Engineering in Japan (IE³)
- d. Electronic and Radio Engineering
- e. Electronic Components (London)
- f. Electronic Engineering
- g. Electronics and Communications in Japan (IE³)
- h. Electronics in Mainland China (IE³)
- i. Electronics Power (London)
- j. Electro-Techniek (published in the Netherlands)
- k. Engineering Cybernetics (IE³)

1. Institution of Electronic and Radio Engineers (London). Proceedings
- m. Journal of Quantum Electronics
- n. Microelectronics and Reliability (Pergamon)
- o. Radio-Electronics
- p. Radio Engineering and Electronic Physics (IEEE)
- q. Radio Science
- r. Reports on Telephone Engineering (Siemens)
- s. Scientia Electrica (Text in English, French, & German)
- t. Semiconductor Products and Solid State Technology
- u. Soviet Electrical Engineering (Faraday Press)
- v. Soviet Automatic Control (IE3)

4) That the Department recommend to the Library the priority in which it wishes the following gaps closed:

- LIBRARY HAS
- a. Automation and Remote Control. Vol. 27, 1966-
 - b. Electronics and Power. Vol. 10, 1964-
 - c. IEEE International Convention Record. Vol. 11, 1963-
 - d. Institution of Electrical Engineers. (London), Proceedings. Irregular holdings beginning Vol. 98, 1951-
 - e. International Journal of Electronics. Vol. 18, 1965-
 - f. Journal of Electronics and Control, now called International Journal of Control. Library has no issues of first title
 - g. Midwest Symposium on Circuit Theory. Vol. 6, 1963-
 - h. National Telemetering Conference. Proceedings. 1964-
 - i. Post Office Electrical Engineers' Journal. Vol. 60, 1967-
 - j. The Radio and Electronic Engineer. Vol. 27, 1964-
 - k. Solid State Electronics. Vol. 10, 1967-
 - l. Telecommunications and Radio Engineering (IEEE). 1966-

6. Mechanical Engineering. The Library contains the basic tools necessary for the work of the mechanical engineer. The standard handbooks, mathematical tables, manuals, and journals are available in the Library with some minor exceptions. However, the collection needs to acquire: the most recent editions for some of the basic texts, (for example, E.J. Kates, 2nd ed. of Diesel and High Compression Gas Engines), up-to-date library materials to support work in areas closely related to mechanical engineering (for example, automotive, aeronautical, marine, nuclear, and astronautical engineering, as well as rocketry, high vacuum engineering, corrosion, materials science, lubrication, etc.), and more English language publications from outside the U.S. Mechanical engineering publications appearing in languages other than English make very little contribution to our present curriculum and should not be given a high priority on the list of acquisitions.

Some consideration will have to be given to acquiring more of the publications issued or sponsored by the professional engineering societies, i.e., books, journals, tables, test codes, recommended standards, handbooks, reports, monographic series, etc. The Library has a large number of publications from the American Society of Mechanical Engineers. However, many of these have been replaced with more up-to-date editions which the Library does not have. In order to assure their automatic acquisition, all ASME publications with the exception of reprints should be placed on standing order. In addition, the Library should also consider acquiring on standing order selected publications from the Institution of Mechanical Engineers (Great Britain), selected Conference Proceedings

and Symposia, as well as certain of the professional engineering publications from societies, institutes, associations and corporations.

The Library presently receives 33 serials classified in the mechanical engineering (TJ) section of the Library. These include the primary resource journals in mechanical engineering published in the U.S. Holdings are complete or nearly so for most of these. Of the 95 serials listed in Ulrich's (2), the Library has 15. This is not as bad as would appear on the surface since many of these are trade journals or cover fields which do not fit into our curricular pattern. For books and monographs the reader should review appropriate sections in Voigt (9) and Deason (3). From Section VI, Mechanical Engineering, of the bibliography prepared by the Engineer's Council For Professional Development (27a), the Library has 75 out of 130 titles. It is apparent from these three lists that the collection, while adequate, is in need of some up-dating and some additional texts in ancillary areas.

a) Recommendations - Mechanical Engineering

1) That the Department review the professional engineering publications from selected groups such as Sperry Gyroscope Co., Sandia Corporation, Allis-Chalmers, the Society of Automotive Engineers, the Combustion Institute, the American Nuclear Society, American Gas Association, American Society For Testing Materials, American Society For Metals, Hydraulic Institute, General Motors Corporation, Society of Automotive Engineers, and the Institution of Mechanical Engineers (Great Britain), with the idea of recommending to the Library which titles they feel should be available here. Examples of publications to be considered include the following:

- a. General Motors Corporation. Research Laboratories. Symposia. Published by American Elsevier
- b. International Symposium on Lubrication and Wear. Proceedings. Library has only 1963
- c. Hydraulic Institute. Standards. Library has only 1965
- d. The Library should have a standing order for all ASME publications except those which are obviously reprints of material published elsewhere.
- e. A standing order should be placed for all SAE publications except Technical Papers, Safety Standards and other items which may be reprinted elsewhere. This standing order should include such items as SAE Aerospace Conference Proceedings, the Stapp Car Crash Conference Proceedings. (Library has 8th & 10th only), and books published as part of the SAE Progress In Technology Series.
- f. The Library should acquire on standing order the Proceedings of the Midwestern Conference on Fluid Mechanics (we now have 1st-5th, 1950-1957), the Midwestern Conference on Solid Mechanics (now have 3rd & 4th, 1957-1959), the Midwestern Mechanics Conference (now have 8th, 1963), and the U.S. National Congress of Applied Mechanics (now have 5th, 1966 only).
- g. National Conference on Fluid Power, Proceedings
- h. American Society of Tool and Manufacturing Engineers, Research Reports
- i. Applied Mechanics Review. Library has Vol. 15, 1962-

2) The Department should review and make recommendations regarding the priority in which they wish the following journals acquired. Ranking order should include the acquisition of backfiles.

- a. ASLE Transactions (American Society of Lubrication Engineers)
- b. Bulletin of Mechanical Engineering Education (Pergamon)
- c. Combustion and Flame (Butterworth)
- d. Cutting Tool Engineer
- e. Diesel and Gas Turbine Progress
- f. Fuel (Butterworth)
- g. Institute of Marine Engineers. Transactions
- h. Institute of Mechanical Engineers. Proceedings
- i. International Journal of Fracture Mechanics
- j. International Journal of Mechanical Sciences
- k. International Journal of Machine Tool Design and Research
- l. Journal of Mechanical Engineering Science (London)
- m. Marine Engineering/Log
- n. Mill and Factory
- o. Modern Metals
- p. Society of Instrument Technology (London). Transactions

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